

MASSACHUSETTS DEPARTMENT OF TRANSPORTATION HIGHWAY DIVISION

PLAN AND PROFILE OF BRUCE FREEMAN RAIL TRAIL

IN THE TOWN OF
SUDBURY
MIDDLESEX COUNTY

FEDERAL AID PROJECT NO. TBD

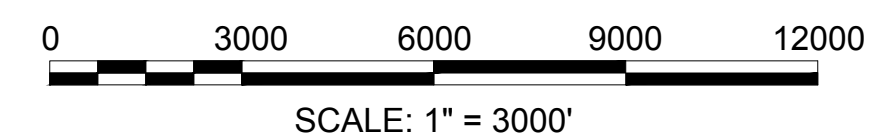
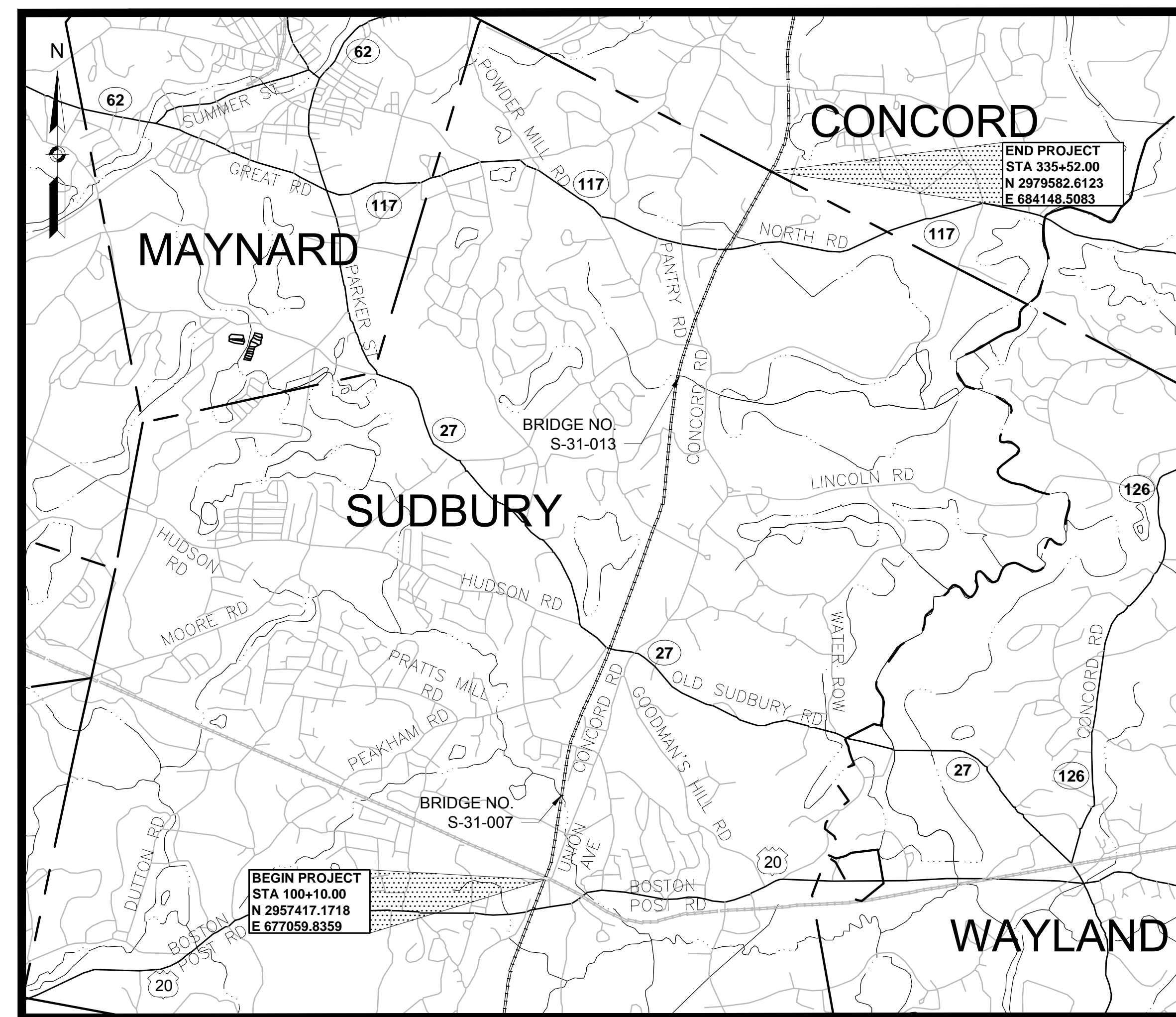
25% SUBMITTAL

SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	01	123
PROJECT FILE NO.		608164	

TITLE SHEET & INDEX

THE MASSACHUSETTS HIGHWAY DEPARTMENT STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES DATED 1988, THE SUPPLEMENTAL SPECIFICATIONS DATED JULY 1, 2015, THE 2016 CONSTRUCTION STANDARD DETAILS, THE 1990 STANDARD DRAWINGS FOR SIGNS AND SUPPORTS, THE 2015 OVERHEAD SIGNAL STRUCTURE AND FOUNDATION STANDARD DRAWINGS, THE 1996 CONSTRUCTION AND TRAFFIC STANDARD DETAILS (AS RELATED TO TRAFFIC STANDARD DETAILS ONLY), THE LATEST MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) FOR STREETS AND HIGHWAYS WITH MASSACHUSETTS AMENDMENTS, THE 1968 STANDARD DRAWINGS FOR TRAFFIC SIGNALS AND HIGHWAY LIGHTING, AND THE LATEST EDITION OF THE AMERICAN STANDARD FOR NURSERY STOCK, WILL GOVERN.

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LENGTH OF PROJECT = 23,542.00 FEET = 4.459 MILES

DESIGN DESIGNATION (BRUCE FREEMAN RAIL TRAIL)

DESIGN SPEED 18-20 MPH*
* 18 MPH FOR GRADES LESS THAN 2%, 20 MPH FOR GRADES BETWEEN 2% & 4%

DATE	DESCRIPTION	REV #

DEPARTMENT OF TRANSPORTATION FEDERAL HIGHWAY ADMINISTRATION APPROVED:		
	RECOMMENDED FOR APPROVAL	
DIVISION ADMINISTRATOR _____ DATE _____	CHIEF ENGINEER _____ DATE _____	APPROVED HIGHWAY ADMINISTRATOR _____ DATE _____

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
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GENERAL NOTES

GENERAL ABBREVIATIONS

ABAN	ABANDON
ADJ	ADJUST
APPROX	APPROXIMATE
A.C.	ASPHALT CONCRETE
ACCM PIPE	ASPHALT COATED CORRUGATED METAL PIPE
BIT.	BITUMINOUS
BC	BOTTOM OF CURB
BD.	BOUND
BL	BASELINE
BLDG	BUILDING
BM	BENCHMARK
BO	BY OTHERS
BOS	BOTTOM OF SLOPE
BR.	BRIDGE
CC	CEMENT CONCRETE
CCM	CEMENT CONCRETE MASONRY
CEM	CEMENT
CI	CURB INLET
CLF	CHAIN LINK FENCE
CL	CENTERLINE
CO.	COUNTY
CONC	CONCRETE
CONT	CONTINUOUS / CONTINUED
CONST	CONSTRUCTION
CR GR	CROWN GRADE
DIA	DIAMETER
DWY	DRIVEWAY
ELEV (or EL.)	ELEVATION
EMB	EMBANKMENT
EOP	EDGE OF PAVEMENT
EQ	EQUAL
EXIST (or EX)	EXISTING
EXC	EXCAVATION
FDN.	FOUNDATION
FDP	FULL DEPTH PAVEMENT
FLDSTN	FIELDSTONE
GAR	GARAGE
GD	GROUND
GRAN	GRANITE
GRAV	GRAVEL
GRD	GUARD
HMA	HOT MIX ASPHALT
HOR	HORIZONTAL
HWY	HIGHWAY
JCT	JUNCTION
LOAM	LOAM BORROW
LSA	LANDSCAPED AREA
LT	LEFT
MAHWL	MEAN AVERAGE HIGH WATER LINE
MAX	MAXIMUM
MB	MAILBOX
MHB	MASSACHUSETTS HIGHWAY BOUND
MIN	MINIMUM
MOD	MODIFIED
MSE	MECHANICALLY STABILIZED EARTH
NERR	NEW ENGLAND RAILROAD
NIC	NOT IN CONTRACT
NO.	NUMBER
NTS	NOT TO SCALE
O.C.	ON CENTER
O.D.	OUTSIDE DIAMETER
P.G.L.	PROFILE GRADE LINE
PREV	PREVIOUS/PREVIOUSLY
PROJ	PROJECT
PROP	PROPOSED
PSB	PLANTABLE SOIL BORROW
PVMT	PAVEMENT
R&D	REMOVE AND DISCARD
R&R	REMOVE AND RESET
R&S	REMOVE AND STACK
RD	ROAD
RDWY	ROADWAY
REB	REBUILD
REM	REMOVE
REMOD	REMODEL
RET	RETAIN
RET WALL	RETAINING WALL
ROW	RIGHT OF WAY
RR	RAILROAD
RT	RIGHT
SB	STONE BOUND
SHLD	SHOULDER
SHLO/S.H.L.O.	STATE HIGHWAY LAYOUT LINE

GENERAL ABBREVIATIONS (CONT)

ST	STREET
STA	STATION
STD	STANDARD
SW	SIDEWALK
TEMP	TEMPORARY
TC	TOP OF CURB
TOS	TOP OF SLOPE
TRANS	TRANSITION
TRM	TURF REINFORCING MAT
TYP	TYPICAL
VAR	VARIES
VERT	VERTICAL
WCR	WHEEL CHAIR RAMP
WP	WORKING POINT
X-SECT	CROSS SECTION

UTILITY ABBREVIATIONS

CB	CATCH BASIN
CBCI	CATCH BASIN WITH CURB INLET
CIP	CAST IRON PIPE
CIT	CHANGE IN TYPE
CMP	CORRUGATED METAL PIPE
CSP	CORRUGATED STEEL PIPE
DI	DROP INLET
DIP	DUCTILE IRON PIPE
FES	FLARED END SECTION
F&C	FRAME AND COVER
F&G	FRAME AND GRATE
GG	GAS GATE
GI	GUTTER INLET
GIP	GALVANIZED IRON PIPE
HDPE	HIGH DENSITY POLYETHYLENE PIPE
HDW	HEADWALL
HYD	HYDRANT
INV	INVERT
LB	LEACH BASIN
LP	LIGHT POLE
MH	MANHOLE
MW	MONITORING WELL
OHW	OVERHEAD WIRE
PVC	POLYVINYLCHLORIDE PIPE
PWW	PAVED WATER WAY
RCP	REINFORCED CONCRETE PIPE
SMH	SEWER MANHOLE
TSV&B	TAPPING SLEEVE VALVE & BOX
UP	UTILITY POLE
WG	WATER GATE
WIP	WROUGHT IRON PIPE
WM	WATER METER/WATER MAIN

ALIGNMENT & GRADING ABBREVIATIONS

CC	CENTER OF CURVE
HP	HIGH POINT
I.T.	INTERSECTION OF TANGENT
LP	LOW POINT
PC	POINT OF CURVATURE
PCC	POINT OF COMPOUND CURVATURE
PI	POINT OF INTERSECTION
PNT	POINT
POC	POINT ON CURVE
POT	POINT ON TANGENT
PRC	POINT OF REVERSE CURVATURE
PT	POINT OF TANGENCY
LPT	ANGLE POINT
R	RADIUS OF CURVATURE
T	TANGENT DISTANCE OF CURVE
TAN	TANGENT
25.45	SPOT ELEVATION

PROFILE ABBREVIATIONS

AD	ALGEBRAIC DIFFERENCE IN RATES OF GRADE
HSD	HORIZONTAL SIGHT DISTANCE
K	RATE OF VERTICAL CURVATURE
L	LENGTH OF CURVE
PVC	POINT OF VERTICAL CURVATURE
PVCC	POINT OF VERTICAL COMPOUND CURVATURE
PVI	POINT OF VERTICAL INTERSECTION
PVRC	POINT OF VERTICAL REVERSE CURVATURE
PVT	POINT OF VERTICAL TANGENCY
SSD	STOPPING SIGHT DISTANCE
VC	VERTICAL CURVE

TRAFFIC SIGNAL

CAB.	CABINET
CCVE	CLOSED CIRCUIT VIDEO EQUIPMENT
DW	STEADY DON'T WALK
FDW	FLASHING DON'T WALK
FR	FLASHING CIRCULAR RED
←FR→	FLASHING RED LEFT ARROW
→FR→	FLASHING RED RIGHT ARROW
FY	FLASHING CIRCULAR YELLOW
←FY→	FLASHING YELLOW LEFT ARROW
→FY→	FLASHING YELLOW RIGHT ARROW
G	STEADY CIRCULAR GREEN
←G→	STEADY GREEN LEFT ARROW
→G→	STEADY GREEN RIGHT ARROW
GSL	STEADY GREEN SLASH LEFT ARROW
GSR	STEADY GREEN SLASH RIGHT ARROW
↑G	STEADY GREEN VERTICAL ARROW
OL	OVERLAP
PED	PEDESTRIAN
PTZ	PAN, TILT, ZOOM
R	STEADY CIRCULAR RED
←R→	STEADY RED LEFT ARROW
→R→	STEADY RED RIGHT ARROW
TR SIG	TRAFFIC SIGNAL
TSC	TRAFFIC SIGNAL CONDUIT
W	STEADY WALK
Y	STEADY CIRCULAR YELLOW
←Y→	STEADY YELLOW LEFT ARROW
→Y→	STEADY YELLOW RIGHT ARROW

GENERAL NOTES:

- EXISTING CONDITIONS AND TOPOGRAPHICAL INFORMATION FROM AN ACTUAL FIELD SURVEY CONDUCTED BY VHB, INC. IN DECEMBER 2015 THROUGH APRIL 2016.
- THE HORIZONTAL CONTROL IS BASED ON THE MASSACHUSETTS MAINLAND STATE PLANE COORDINATE SYSTEM AND THE NATIONAL GEODETIC SURVEY (NAD83). ALL ELEVATION IS US FEET, REFERENCED TO THE NORTH AMERICA VERTICAL DATUM OF 1988 (NAVD88).
- THE CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND GRADES IN THE FIELD BEFORE COMMENCING WORK AND PROMPTLY NOTIFY THE ENGINEER OF ANY DISCREPANCIES.
- THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTATIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND SHALL BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.
- DRAINAGE ELEVATIONS ARE PROVIDED FOR DESIGN PURPOSES ONLY. THE CONTRACTOR SHALL VERIFY BY TEST PIT. THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH THE PROPOSED DRAINAGE DESIGN. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER. ONLY AFTER THE CONTRACTOR VERIFIES ELEVATIONS FOR THE CONSTRUCTABILITY OF THE DRAINAGE SYSTEM SHALL ANY STRUCTURES BE ORDERED. ANY FIELD ADJUSTMENTS TO LINE & GRADE UP TO A DEPTH OF 5' SHALL BE INCLUDED IN THE COST OF THE PIPE. PIPE EXCAVATION GREATER THAN 5' WILL BE PAID UNDER CLASS B TRENCH EXCAVATION.
- THE CONTRACTOR SHALL VERIFY BY TEST PIT, THE LOCATIONS OF EXISTING UTILITIES WHICH MAY CONFLICT WITH PROPOSED CONDUIT AND SIGNAL EQUIPMENT. ANY FIELD ADJUSTMENTS REQUIRED WILL BE MADE AS APPROVED OR DIRECTED BY THE ENGINEER.
- WHERE AN EXISTING UTILITY IS FOUND TO CONFLICT WITH THE PROPOSED WORK, THE LOCATION, ELEVATION AND SIZE OF THE UTILITY SHALL BE ACCURATELY DETERMINED WITHOUT DELAY BY THE CONTRACTOR, AND THE INFORMATION FURNISHED TO THE ENGINEER FOR RESOLUTION OF THE CONFLICT.
- THE CONTRACTOR SHALL ALTER THE MASONRY OF THE TOP SECTION OF ALL EXISTING DRAINAGE AND SEWER STRUCTURES AS NECESSARY FOR CHANGES IN GRADE, AND RESET ALL WATER AND DRAINAGE FRAMES, GRATES AND BOXES TO THE PROPOSED FINISH SURFACE GRADE. REQUIRED NEW MASONRY SHALL BE CLAY BRICK.
- THE CONTRACTOR SHALL MAKE ALL ARRANGEMENTS FOR THE ALTERATION AND ADJUSTMENT OF GAS, ELECTRIC, TELEPHONE AND ANY OTHER PRIVATE UTILITIES BY THE UTILITY COMPANIES.
- EXISTING UTILITY POLES WILL BE RELOCATED BY OTHERS IF REQUIRED.
- TREES AND SHRUBS WITHIN THE LIMITS OF GRADING SHALL BE REMOVED ONLY UPON APPROVAL OF THE ENGINEER.
- AREAS OUTSIDE THE LIMITS OF PROPOSED WORK DISTURBED BY THE CONTRACTOR'S OPERATIONS SHALL BE RESTORED BY THE CONTRACTOR TO THEIR ORIGINAL CONDITION AT NO EXPENSE TO THE OWNER.
- THE TERM "PROPOSED" (PROP) MEANS WORK TO BE CONSTRUCTED USING NEW MATERIALS OR, WHERE APPLICABLE, RE-USING EXISTING MATERIALS IDENTIFIED AS "REMOVE AND RESET" (R&R).
- JOINTS BETWEEN NEW ASPHALT CONCRETE ROADWAY PAVEMENT AND SAWCUT EXISTING PAVEMENT SHALL BE SEALED WITH BITUMEN AND BACKSANDS.
- AFTER MILLING OPERATIONS AND PRIOR TO PAVING THE SUPERPAVE INTERMEDIATE OR SURFACES COURSES THE ENGINEER SHALL EVALUATE THE MILLED SURFACE AND SHALL APPLY THE APPROPRIATE REPAIR METHOD IF REQUIRED.
- EXISTING SIGNS WITHIN THE PROJECT LIMITS SHALL BE RETAINED UNLESS INDICATED OTHERWISE ON THE DRAWINGS.
- IF SUITABLE, ALL EXISTING GRANITE CURB & EDGING SHALL BE RE-USED IN THE PROPOSED WORK, EXCEPT CURVED STONES OF A DIFFERENT RADIUS THAN PROPOSED CURB.
- ALL PROPOSED HOT MIX ASPHALT CURB SHALL BE MASSDOT TYPE 3.
- ALL EXISTING STATE, COUNTY, CITY, AND TOWN LOCATION LINES AND PRIVATE PROPERTY LINES HAVE BEEN ESTABLISHED FROM AVAILABLE INFORMATION AND THEIR EXACT LOCATIONS ARE NOT GUARANTEED.
- ALL PROPOSED BOUNDS SHALL BE PLACED BY A LICENSED PROFESSIONAL SURVEYOR. THE CONTRACTOR SHALL EXERCISE DUE CARE WHEN WORKING AROUND ALL PROPERTY BOUNDS WHICH ARE TO REMAIN. SHOULD ANY DAMAGE TO A BOUND RESULT FROM THE ACTIONS OF THE CONTRACTOR, THE CONTRACTOR SHALL HAVE THE BOUND REPLACED AND/OR REALIGNED BY A LICENSED PROFESSIONAL SURVEYOR AS DIRECTED BY THE ENGINEER AT NO ADDITIONAL COST.
- DISPOSAL OF ALL SURPLUS MATERIAL SHALL BE AS APPROVED BY THE ENGINEER AND OWNER.
- LATERAL DRAIN PIPES SHALL BE INSTALLED WITH A PITCH OF 0.01 FOOT PER FOOT (MINIMUM) UNLESS NOTED OTHERWISE ON THE PLANS.

GENERAL SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		JERSEY BARRIER
		CATCH BASIN
		CATCH BASIN CURB INLET
		FLAG POLE
		GAS PUMP
		MAIL BOX
		POST SQUARE
		POST CIRCULAR
		WELL
		ELECTRIC HANDHOLE
		FENCE GATE POST
		GAS GATE
		BORING HOLE
		MONITORING WELL
		TEST PIT
		HYDRANT
		LIGHT POLE
		COUNTY BOUND
		GPS POINT
		CABLE MANHOLE
		DRAINAGE MANHOLE
		ELECTRIC MANHOLE
		GAS MANHOLE
		MISC MANHOLE
		SEWER MANHOLE
		TELEPHONE MANHOLE
		WATER MANHOLE
		MASSACHUSETTS HIGHWAY BOUND
		MONUMENT
		STONE BOUND
		TOWN OR CITY BOUND
		TRAVERSE OR TRIANGULATION STATION
		TROLLEY POLE OR GUY POLE
		TRANSMISSION POLE
		UTILITY POLE W/ FIREBOX
		UTILITY POLE WITH DOUBLE LIGHT
		UTILITY POLE W / 1 LIGHT
		UTILITY POLE
		BUSH
		TREE
		STUMP
		SWAMP / MARSH
		WATER GATE
		PARKING METER
		OVERHEAD CABLE/WIRE
		CURBING
		CONTOURS (ON-THE-GROUND SURVEY DATA)
		CONTOURS (PHOTOGRAMMETRIC DATA)
		UNDERGROUND DRAIN PIPE (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND ELECTRIC DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND GAS MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND SEWER MAIN (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND TELEPHONE DUCT (DOUBLE LINE 24 INCH AND OVER)
		UNDERGROUND WATER MAIN (DOUBLE LINE 24 INCH AND OVER)
		BALANCED STONE WALL
		GUARD RAIL - STEEL POSTS
		GUARD RAIL - WOOD POSTS
		CHAIN LINK OR METAL FENCE
		WOOD FENCE
		EROSION CONTROL
		DRAINAGE SWALE
		TREE LINE
		SAWCUT LINE
		TOP OR BOTTOM OF SLOPE
		LIMIT OF EDGE OF PAVEMENT OR COLD PLANE AND OVERLAY
		BANK OF RIVER OR STREAM
		BORDER OF WETLAND
		100 FT WETLAND BUFFER
		200 FT RIVERFRONT BUFFER
		STATE HIGHWAY LAYOUT
		TOWN OR CITY LAYOUT
		COUNTY LAYOUT
		RAILROAD SIDELINE
		TOWN OR CITY BOUNDARY LINE
		PROPERTY LINE OR APPROXIMATE PROPERTY LINE
		EASEMENT

TRAFFIC SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		CONTROLLER PHASE ACTUATED
		TRAFFIC SIGNAL HEAD (SIZE AS NOTED)
		WIRE LOOP DETECTOR (6' x 6' TYP UNLESS OTHERWISE SPECIFIED)
		VIDEO DETECTION CAMERA
		MICROWAVE DETECTOR
		PEDESTRIAN PUSH BUTTON, SIGN (DIRECTIONAL ARROW AS SHOWN) AND SADDLE
		EMERGENCY PREEMPTION CONFIRMATION STROBE LIGHT
		VEHICULAR SIGNAL HEAD
		VEHICULAR SIGNAL HEAD, OPTICALLY PROGRAMMED
		FLASHING BEACON
		PEDESTRIAN SIGNAL HEAD, (TYPE AS NOTED OR AS SPECIFIED)
		RAILROAD SIGNAL
		SIGNAL POST AND BASE (ALPHA-NUMERIC DESIGNATION NOTED)
		MAST ARM, SHAFT AND BASE (ARM LENGTH AS NOTED)
		HIGH MAST POLE OR TOWER
		SIGN AND POST
		SIGN AND POST (2 POSTS)
		MAST ARM WITH LUMINAIRE
		OPTICAL PRE-EMPTION DETECTOR
		CONTROL CABINET, GROUND MOUNTED
		CONTROL CABINET, POLE MOUNTED
		FLASHING BEACON CONTROL AND METER PEDESTAL
		LOAD CENTER ASSEMBLY
		PULL BOX 12"x12" (OR AS NOTED)
		ELECTRIC HANDHOLE 12"x24" (OR AS NOTED)
		TRAFFIC SIGNAL CONDUIT

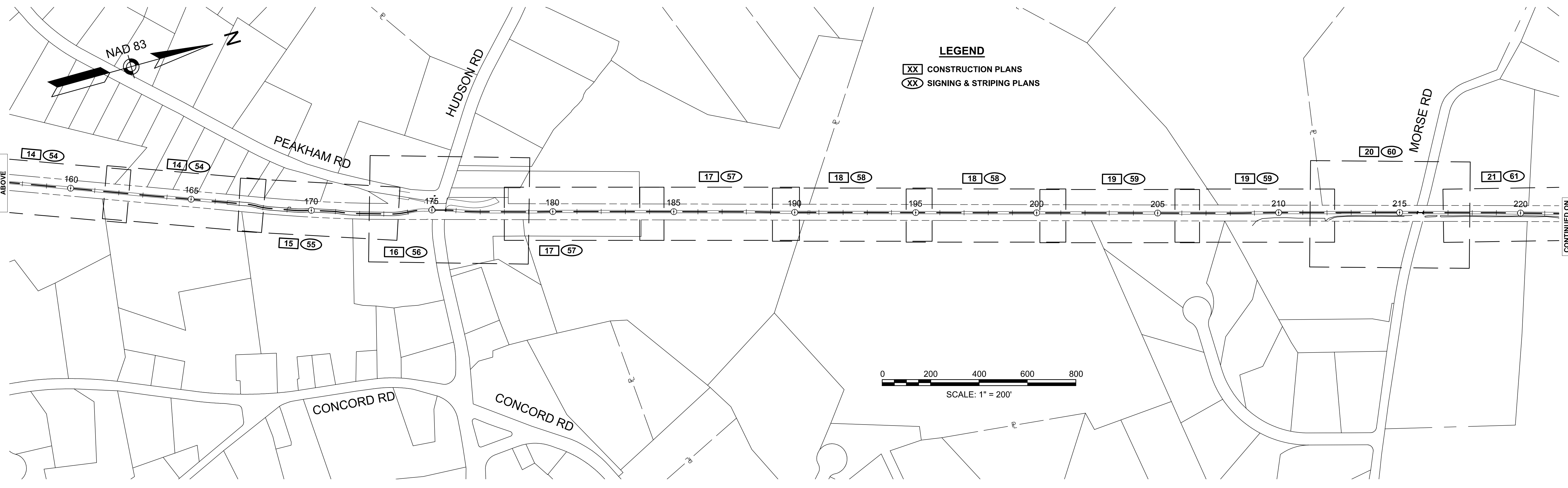
PAVEMENT MARKINGS SYMBOLS

EXISTING	PROPOSED	DESCRIPTION
		PAVEMENT ARROW - WHITE
		LEGEND "ONLY" - WHITE
		STOP LINE
		CROSSWALK
		SOLID WHITE LINE
		SOLID YELLOW LINE
		BROKEN WHITE LINE
		BROKEN YELLOW LINE
		DOTTED WHITE LINE
		DOTTED YELLOW LINE
		DOTTED WHITE LINE EXTENSION
		DOTTED YELLOW LINE EXTENSION
		DOUBLE WHITE LINE
		DOUBLE YELLOW LINE
		LONG DASHED YELLOW LINE

**SUBURBY
BRUCE FREEMAN RAIL TRAIL**

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KEY PLAN & BORING LOCATIONS



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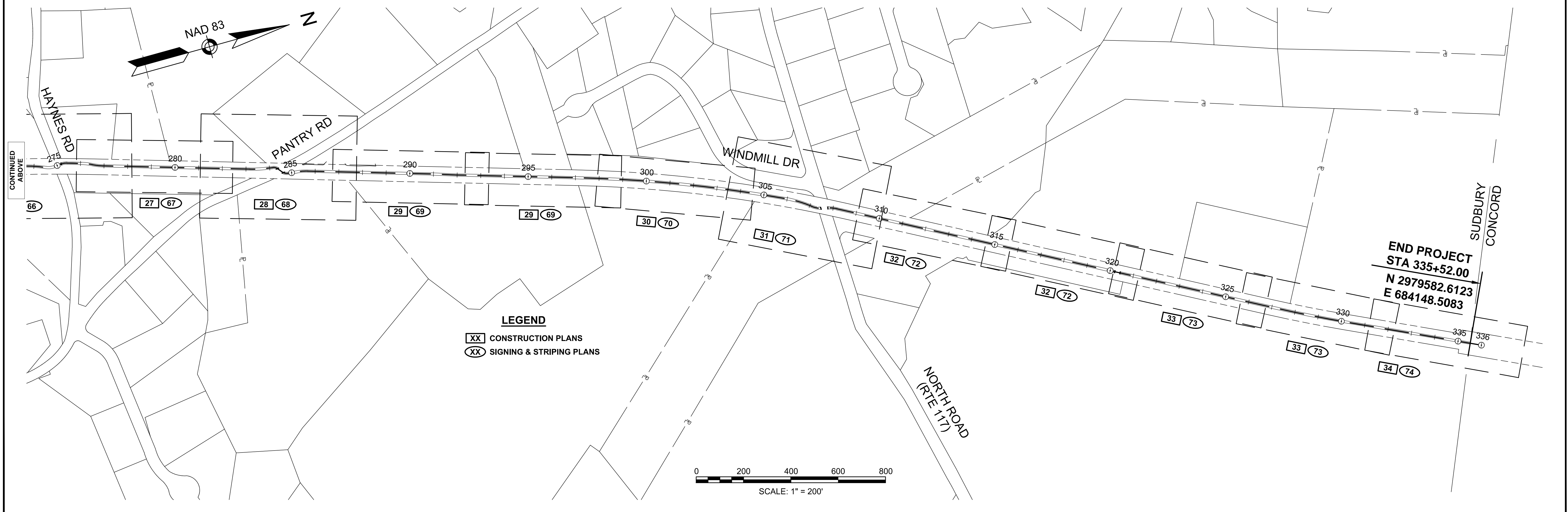
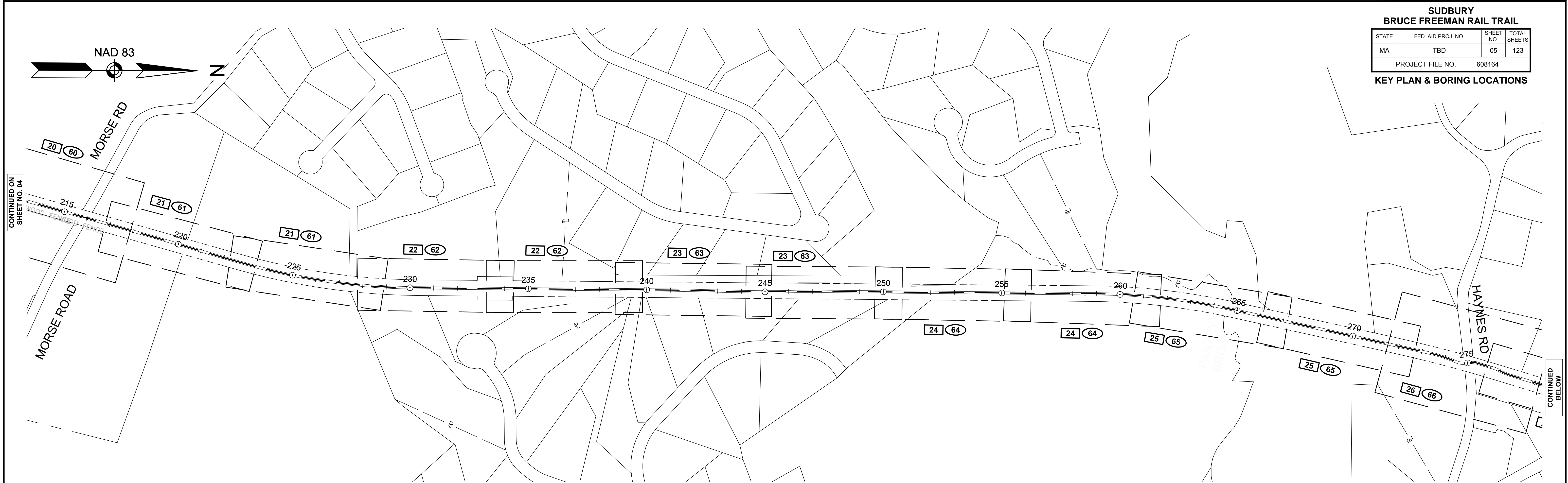
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BRUCE FREEMAN RAIL TRAIL**

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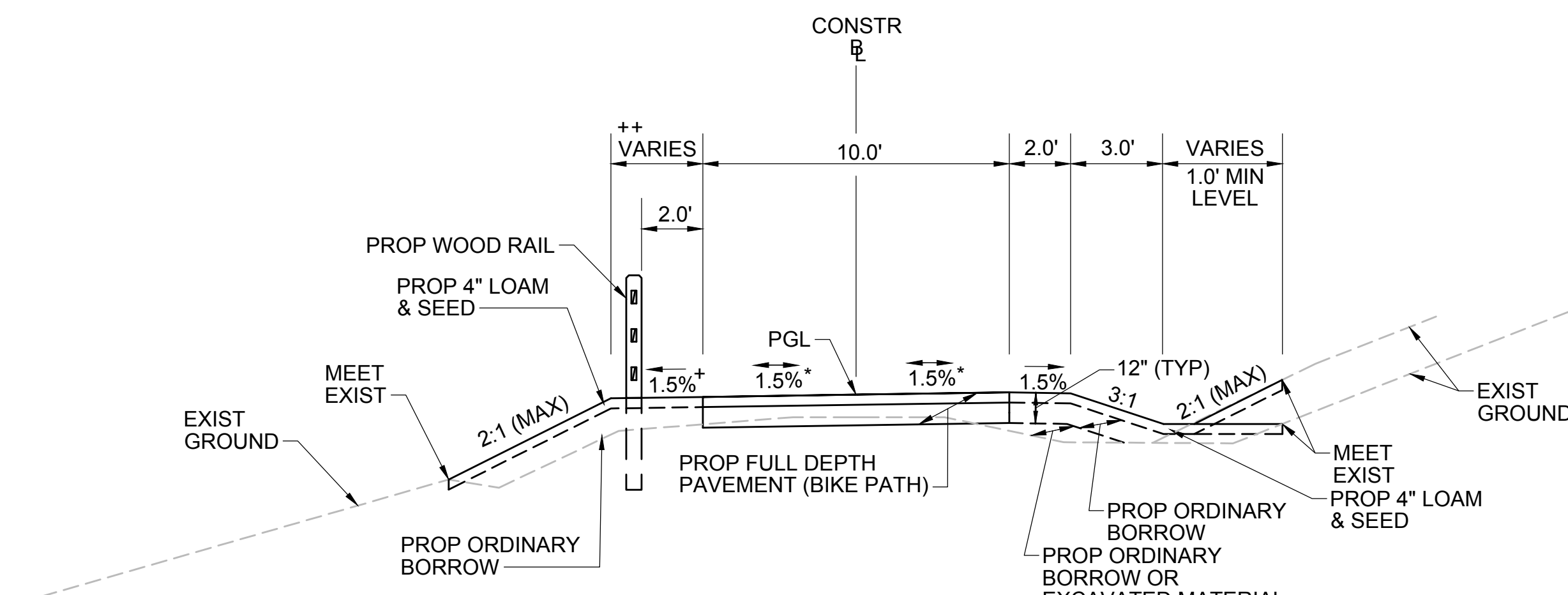
KEY PLAN & BORING LOCATIONS



**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

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TYPICAL SECTIONS

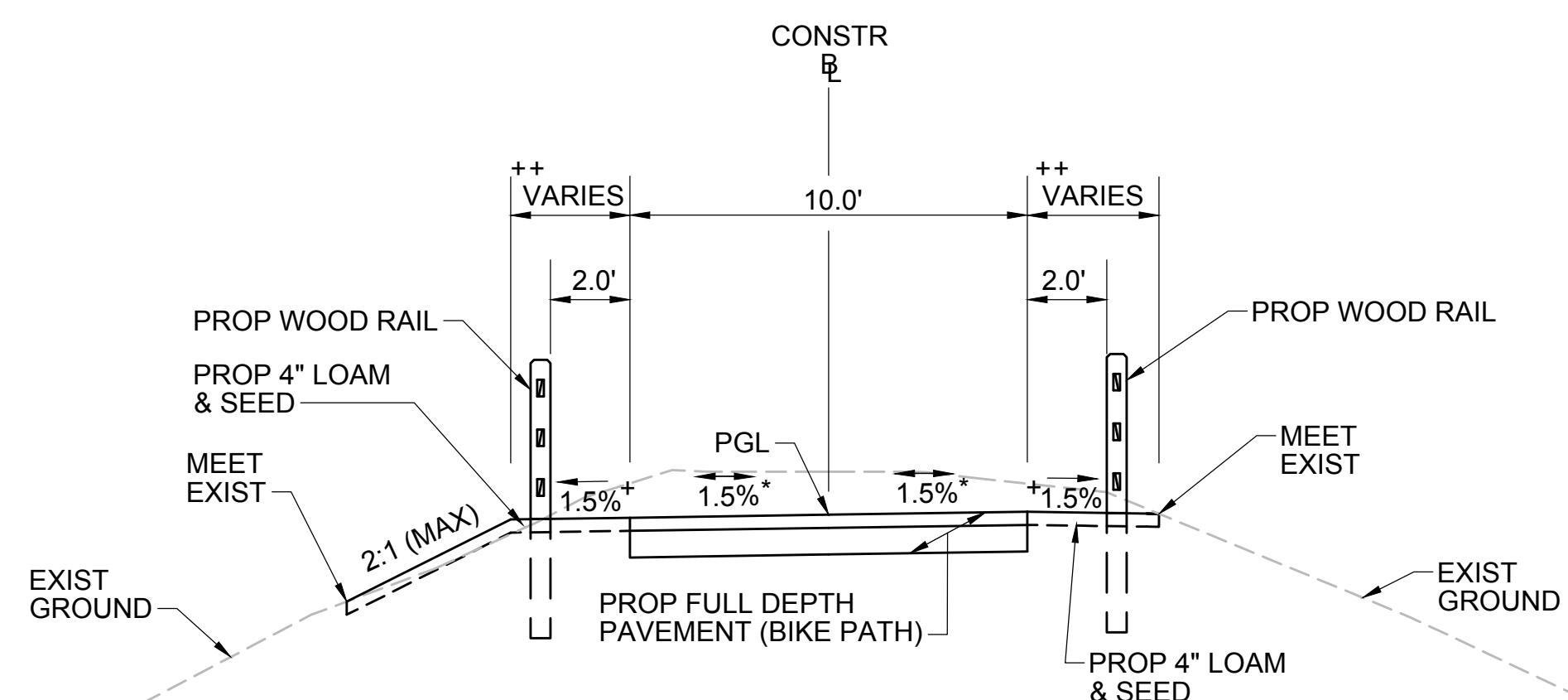


TYPICAL SECTION - SWALE RIGHT SIDE

STA 143+25± TO STA 145+25±
STA 151+00± TO STA 152+25±
STA 254+25± TO STA 257+25±
NTS

*TOLERANCE FOR CONSTRUCTION ±0.5%
+ SHOULDERS CAN BE UP TO 6:1 SLOPE TO AVOID CHASING SLOPES
++ 2.0' MIN TO IT FOR NO WOOD RAIL
3.0' MIN TO IT FOR WOOD RAIL

SEE CROSS SECTIONS FOR MORE INFORMATION



TYPICAL SECTION - CUT INTO EMBANKMENT

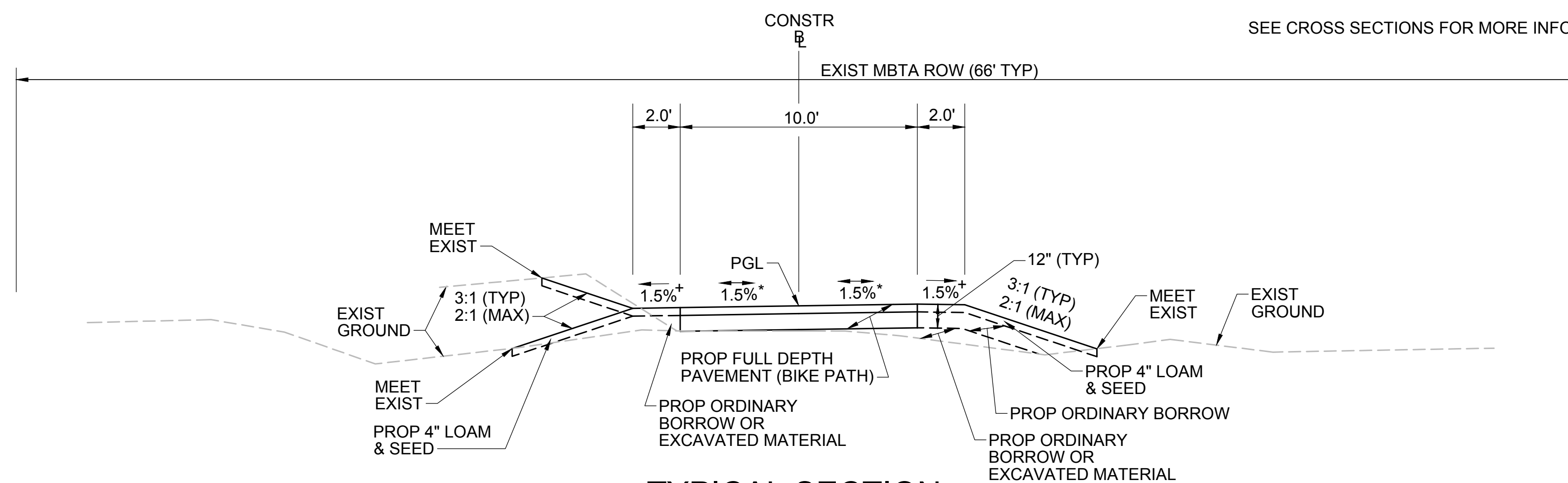
STA 104+75± TO STA 107+50±
STA 109+25± TO STA 111+25±
STA 118+75± TO STA 131+75±
STA 138+75± TO STA 141+25±
STA 158+25± TO STA 163+00±

STA 196+25± TO STA 199+75±
STA 221+50± TO STA 229+25±
STA 235+40± TO STA 249+25±
STA 260+75± TO STA 266+75±
STA 308+75± TO STA 316+25±

STA 321+25± TO STA 333+75±

*TOLERANCE FOR CONSTRUCTION ±0.5%
+ SHOULDERS CAN BE UP TO 6:1 SLOPE TO AVOID CHASING SLOPES
++ 2.0' MIN TO IT FOR NO WOOD RAIL
3.0' MIN TO IT FOR WOOD RAIL

SEE CROSS SECTIONS FOR MORE INFORMATION



TYPICAL SECTION

STA 100+10± TO STA 104+75±
STA 107+50± TO STA 109+25±
STA 111+25± TO STA 118+75±
STA 131+75± TO STA 138+75±
STA 141+25± TO STA 143+25±

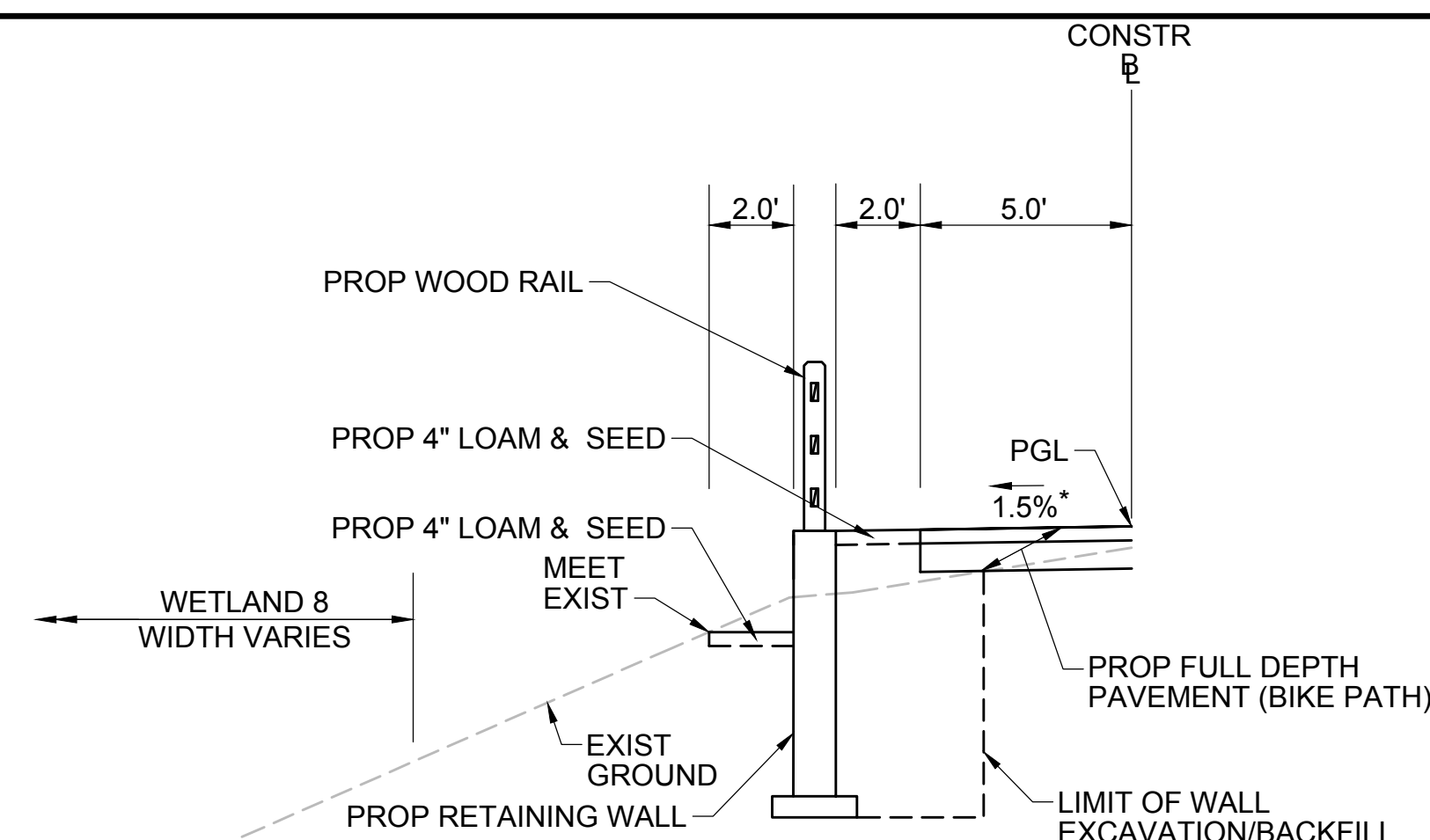
STA 152+25± TO STA 158+25±
STA 163+00± TO STA 163+75±
STA 164+75± TO STA 165+75±
STA 174+75± TO STA 184+75±
STA 191+25± TO STA 196+25±

STA 199+75± TO STA 221+50±
STA 249+25± TO STA 252+75±
STA 258+75± TO STA 260+75±
STA 270+25± TO STA 272+25±
STA 273+75± TO STA 285+25±

STA 307+46± TO STA 308+75±
STA 316+25± TO STA 321+25±
STA 333+75± TO STA 335+52±

*TOLERANCE FOR CONSTRUCTION ±0.5%
+ SHOULDERS CAN BE UP TO 6:1 SLOPE TO AVOID CHASING SLOPES

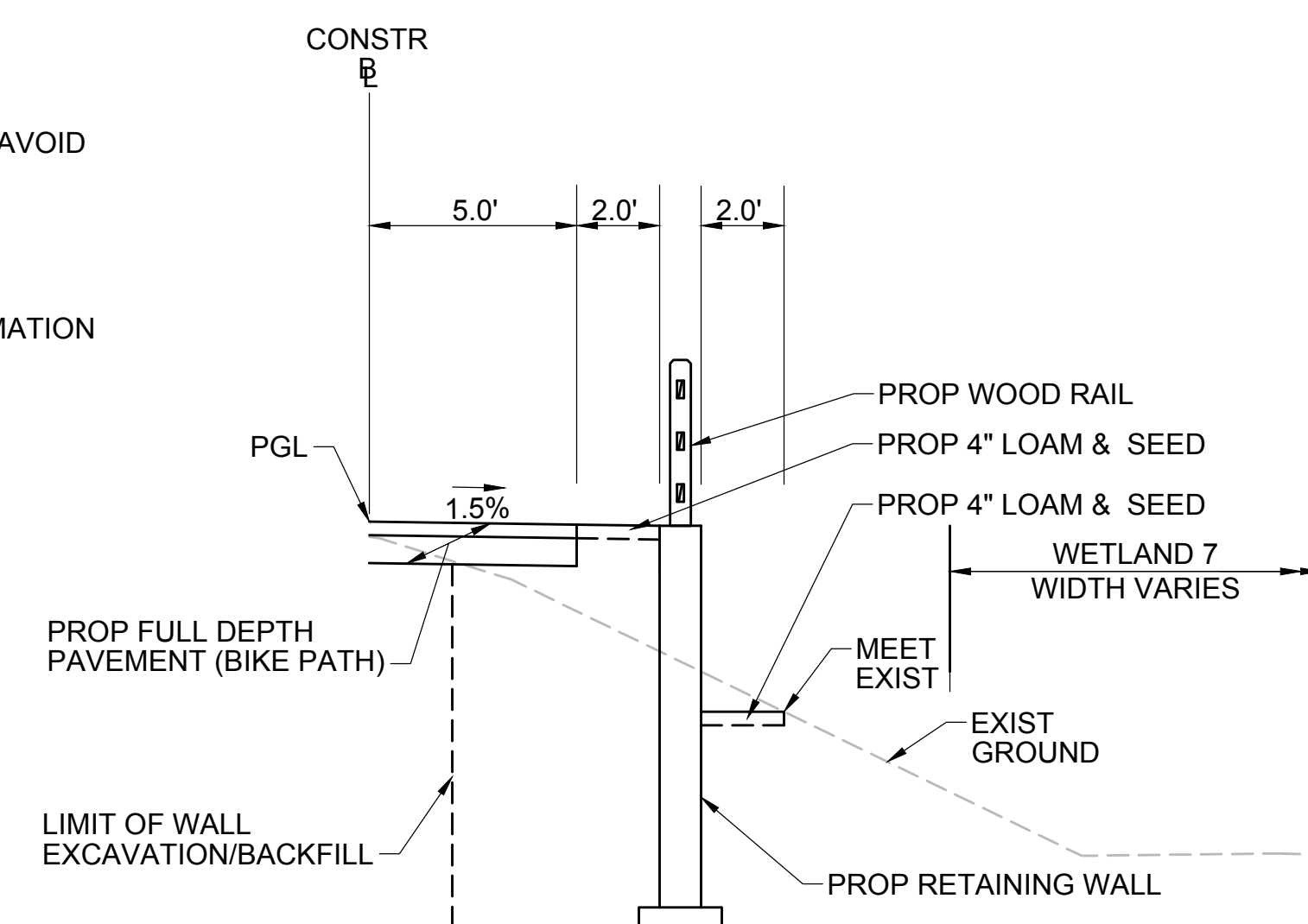
SEE CROSS SECTIONS FOR MORE INFORMATION



WALL SECTION LT

STA 283+89± TO STA 284+33±
NTS

*TOLERANCE FOR CONSTRUCTION ±0.5%



WALL SECTION RT

STA 284+62± TO STA 285+25±
NTS

*TOLERANCE FOR CONSTRUCTION ±0.5%

PAVEMENT NOTES

PROPOSED FULL DEPTH PAVEMENT (PATH)

- SURFACE: 1.5" SUPERPAVE SURFACE COURSE - 9.5 (SSC - 9.5)
- INTERMEDIATE: 2.5" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0)
- SUBBASE: 4-8" GRAVEL BORROW, TYPE b
LEVELING COURSE AS A BASE OVER EXIST BALLAST OR CONCRETE SLAB

***NOTE:**

EXIST GRAVEL/BALLAST SUBGROUND MATERIAL DETERMINED BY THE ENGINEER TO BE SUITABLE SHALL REMAIN. THE DEPTH OF THE GRAVEL BORROW WILL BE AS REQUIRED BASED ON THE PROPOSED SUB-BASE ELEVATIONS.

AFTER REMOVAL OF STEEL RAILS AND WOOD TIMBER, ROUGH GRADE AND COMPACT SUBGROUND AREA. THEN PLACE AND COMPACT GRAVEL BORROW SUB-BASE MATERIAL IN MULTIPLE LIFTS.

PROPOSED CEMENT CONCRETE WHEELCHAIR RAMP

- SURFACE: 6" CEMENT CONCRETE
AIR ENTRAINED 4000 PSI, 3/4", 610
WITH 6"x6" WWM
- SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED HOT MIX ASPHALT WALK

- SURFACE: 1" SUPERPAVE SURFACE COURSE 9.5 (SSC - 9.5) OVER
1.5" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC - 12.5) OVER
- SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED HOT MIX ASPHALT DRIVEWAY

- SURFACE: 1.5" SUPERPAVE SURFACE COURSE 9.5 (SSC - 9.5) OVER
2" SUPERPAVE INTERMEDIATE COURSE 12.5 (SIC - 12.5) OVER
- SUBBASE: 8" GRAVEL BORROW, TYPE b

PROPOSED FULL DEPTH PAVEMENT (PEAKHAM ROAD)

- SURFACE: 1.75" SUPERPAVE SURFACE COURSE - 12.5 (SSC - 12.5)
- INTERMEDIATE: 2.25" SUPERPAVE INTERMEDIATE COURSE - 19.0 (SIC - 19.0)
- BASE: 3.25" SUPERPAVE BASE COURSE - 25.0 (SBC - 25.0)
- SUBBASE: 12" GRAVEL BORROW, TYPE b

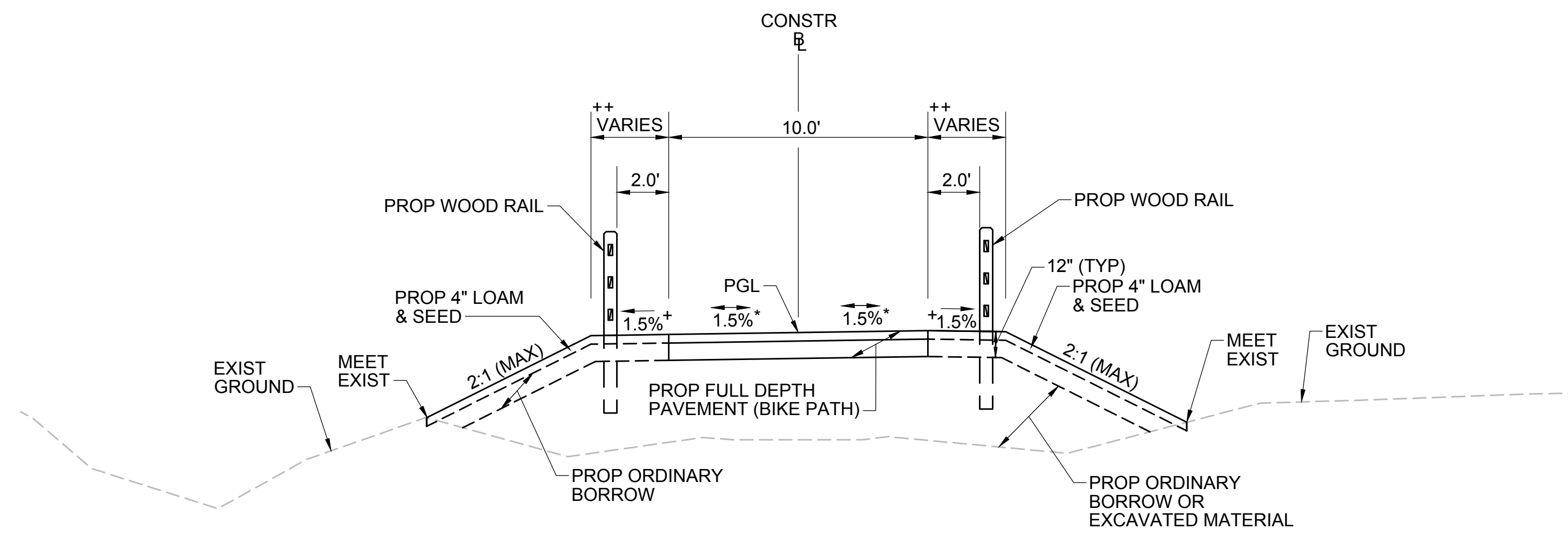
NOTES:

- ALL HOT MIX ASPHALT SHALL BE PRODUCED WITH A WARM-MIX ASPHALT ADDITIVE.
- ALL HOT MIX ASPHALT PAVEMENTS SHALL BE CONSTRUCTED IN ACCORDANCE WITH SECTION 450 QUALITY ASSURANCE FOR HMA AND SHALL BE PRODUCED IN ACCORDANCE WITH SECTION 455 SUPERPAVE HMA SPECIFICATIONS.
- ASPHALT EMULSION FOR TACK COAT (RS-1H) SHALL BE SPRAY APPLIED FOR DOUBLE OVERLAP COVERAGE AT 0.05 GALLONS PER SQUARE YARD OVER SMOOTH SURFACES.
- HMA JOINT SEALANT (ASPHALT RUBBER) SHALL BE APPLIED IN SURFACE COURSE AT ALL VERTICAL COLD JOINTS PRIOR TO PAVING.
- ALL HOT MIX ASPHALT WALKS SHALL BE MEASURED AND PAID FOR UNDER ITEM 702 OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.
- ALL HOT MIX ASPHALT DRIVEWAYS SHALL BE MEASURED AND PAID FOR UNDER ITEM 703 OF STANDARD SPECIFICATIONS FOR HIGHWAYS AND BRIDGES.

SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	07	123
PROJECT FILE NO.		608164	

PAVEMENT NOTES
SEE SHEET 06

TYPICAL SECTIONS

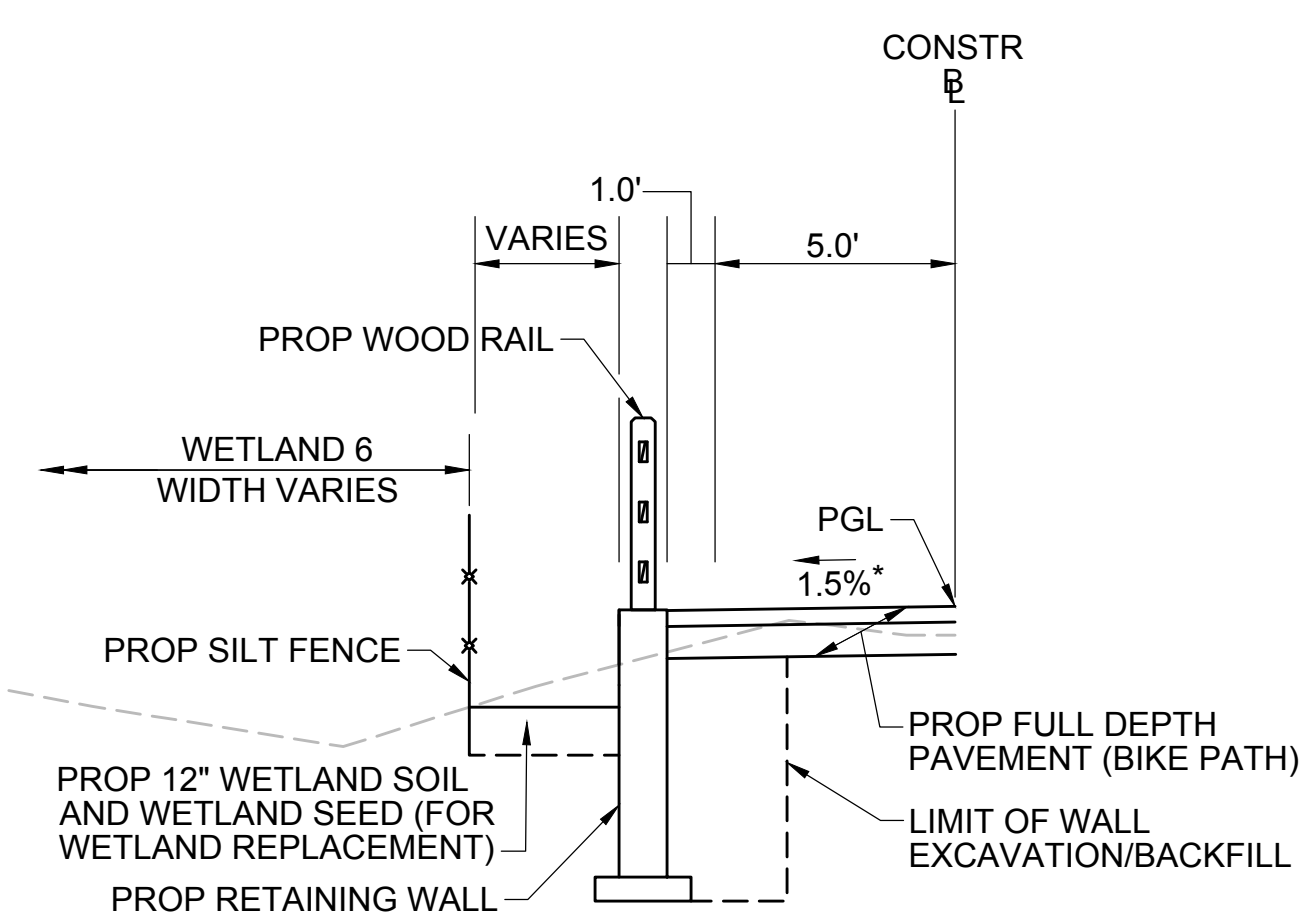


TYPICAL SECTION - WITH RAILING

STA 165+75± TO STA 166+50± STA 257+25± TO STA 258+75±
 STA 174+00± TO STA 174+75± STA 266+75± TO STA 270+25±
 STA 184+75± TO STA 191+25± STA 272+25± TO STA 273+75±
 STA 229+25± TO STA 231+75± STA 285+25± TO STA 292+00±

*TOLERANCE FOR CONSTRUCTION ±0.5%
 † SHOULDER CAN BE UP TO 6:1 SLOPE TO AVOID CHASING SLOPES
 †† 2.0' TO IT FOR NO WOOD RAIL
 3.0' TO IT FOR WOOD RAIL

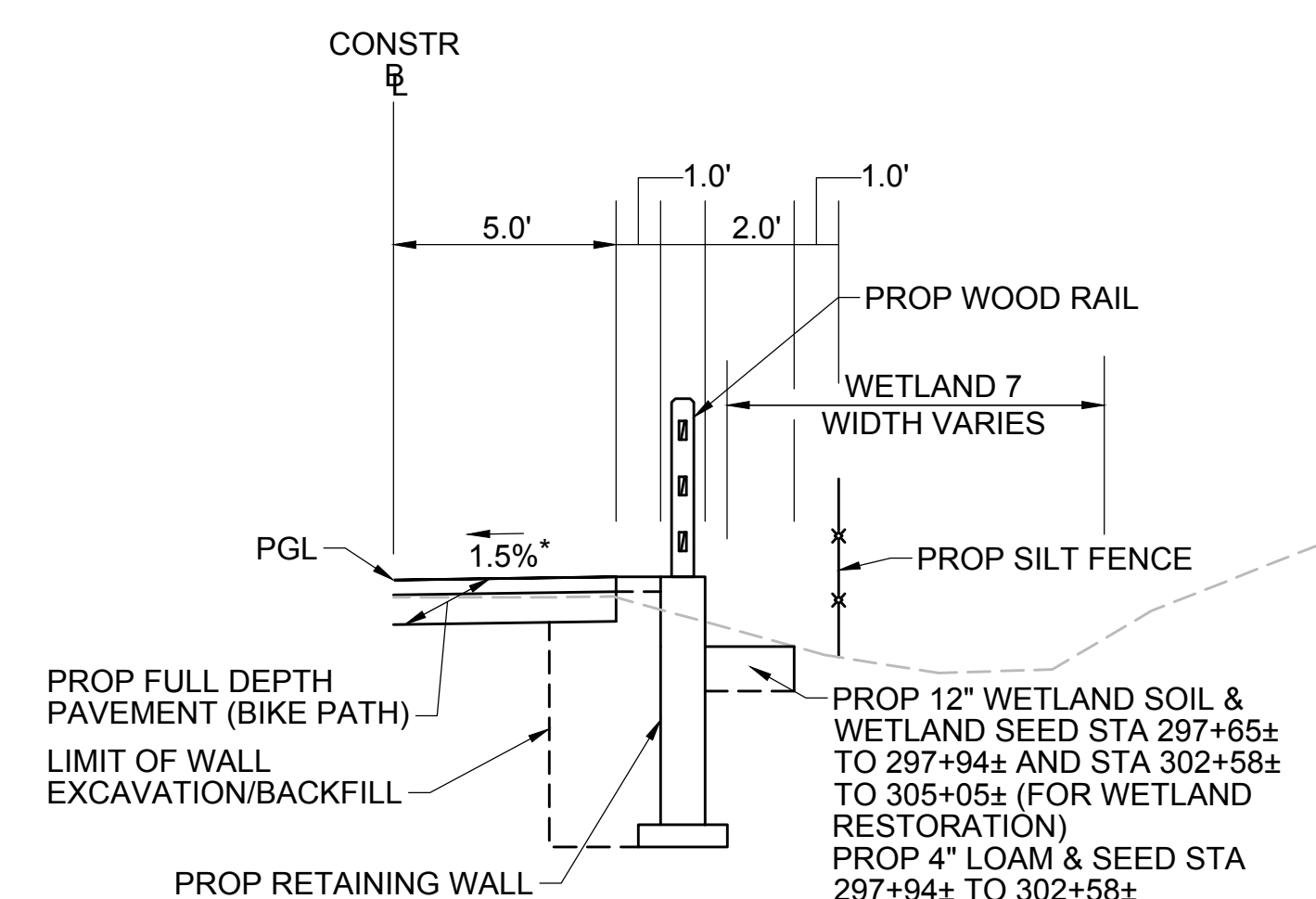
SEE CROSS SECTIONS FOR MORE INFORMATION



WALL SECTION LT - REDUCED WIDTH

STA 298+35± TO STA 302+95±

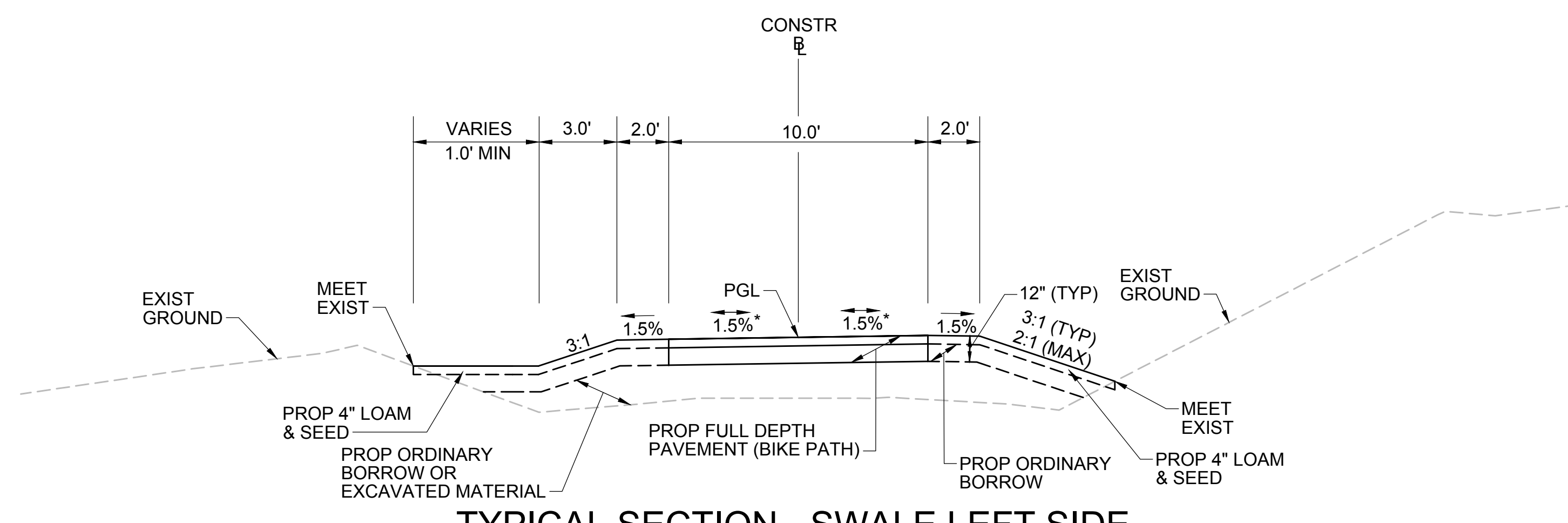
*TOLERANCE FOR CONSTRUCTION ±0.5%



WALL SECTION RT - REDUCED WIDTH

STA 294+65± TO STA 305+05±

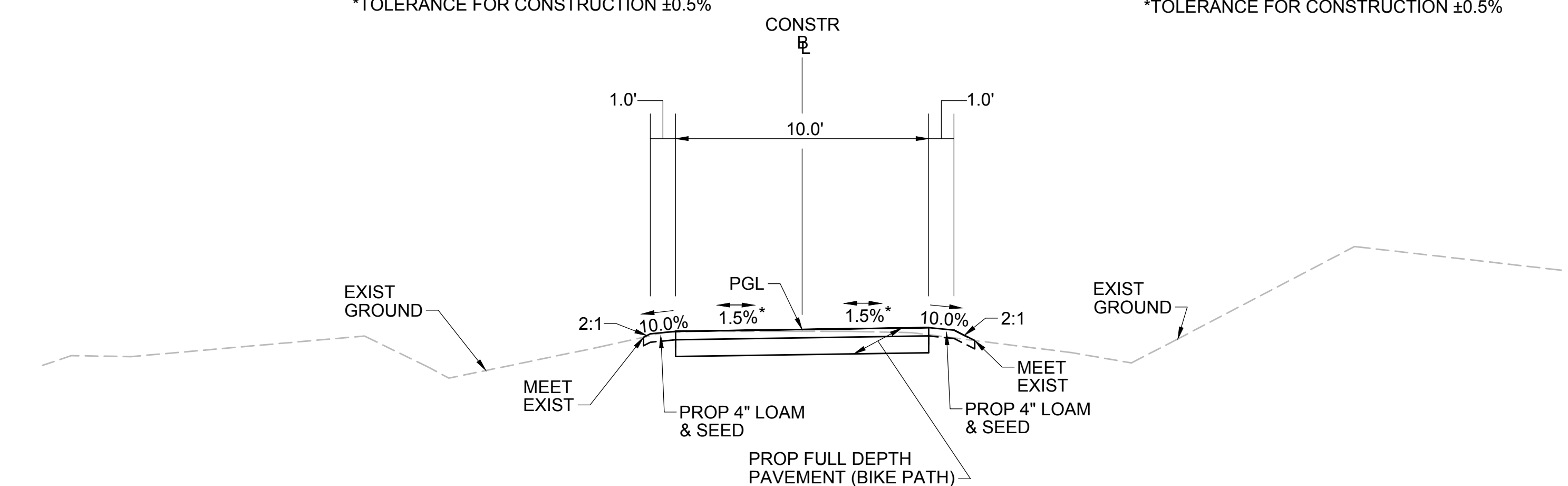
*TOLERANCE FOR CONSTRUCTION ±0.5%



TYPICAL SECTION - SWALE LEFT SIDE

STA 163+75± TO STA 164+75±

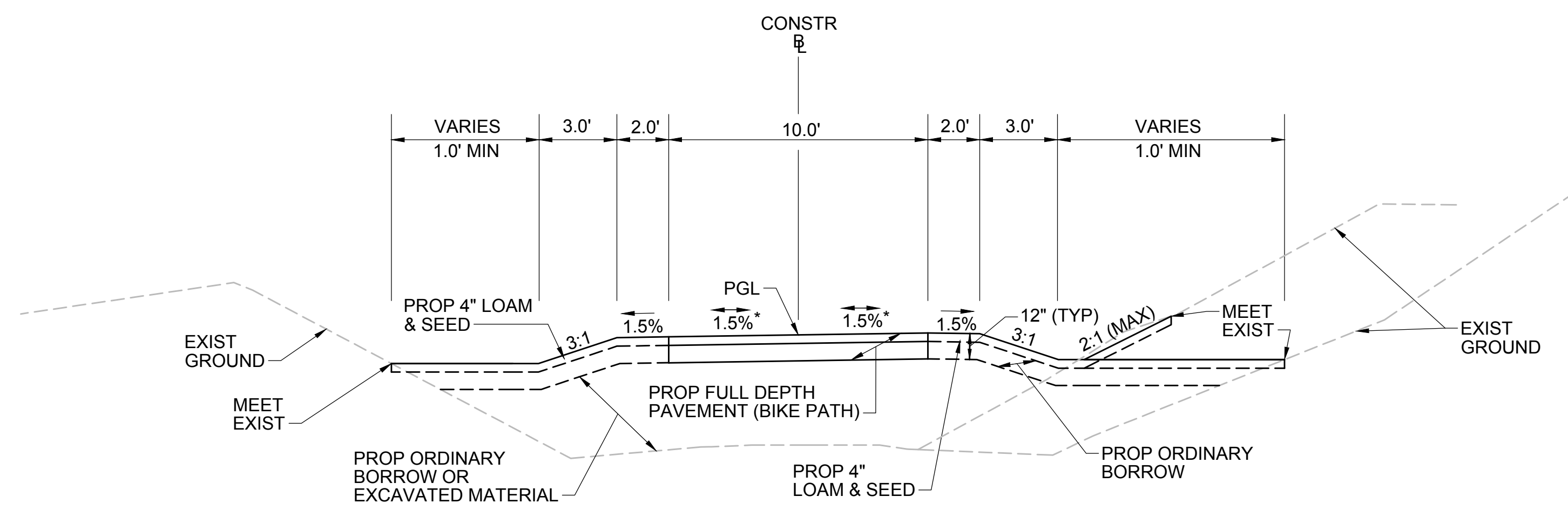
*TOLERANCE FOR CONSTRUCTION ±0.5%
SEE CROSS SECTIONS FOR MORE INFORMATION



TYPICAL SECTION - REDUCED WIDTH

STA 292+00± TO STA 307+46±

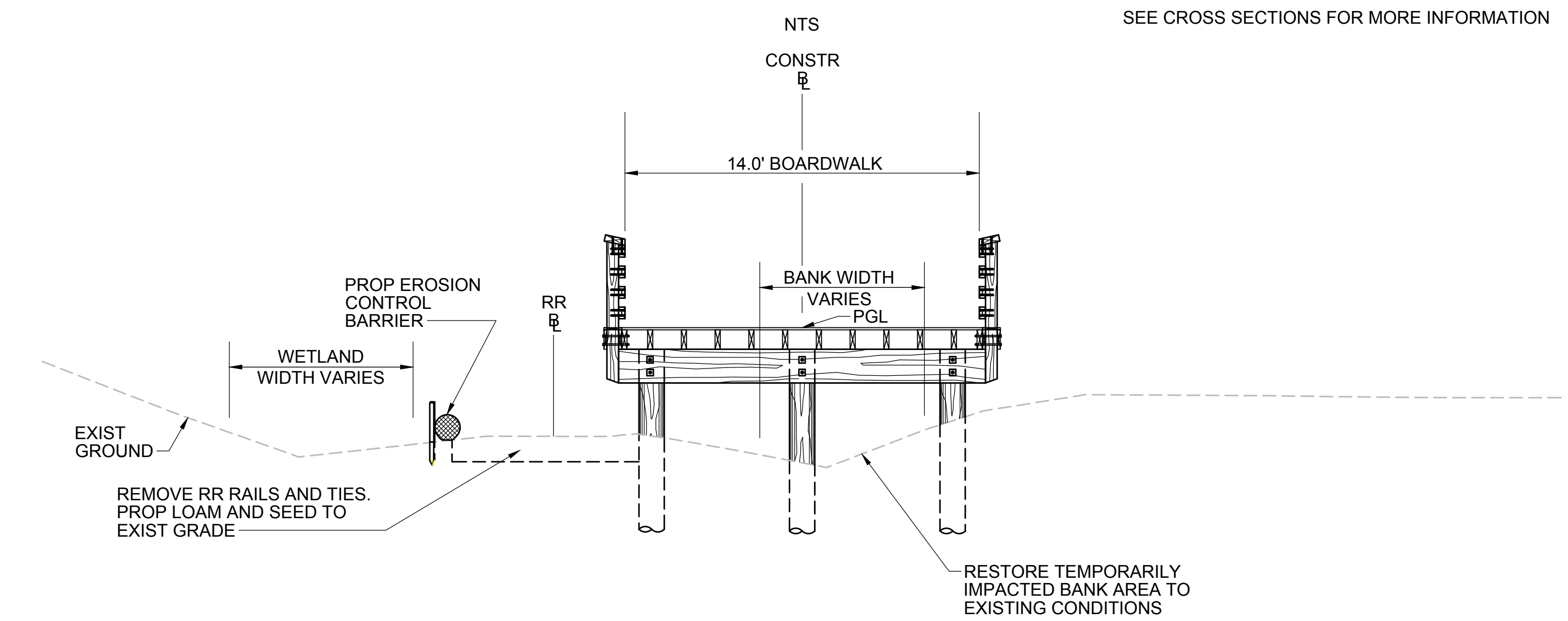
*TOLERANCE FOR CONSTRUCTION ±0.5%
SEE CROSS SECTIONS FOR MORE INFORMATION



TYPICAL SECTION - SWALE BOTH SIDES

STA 145+25± TO STA 151+00±
 STA 231+75± TO STA 235+40±
 STA 252+75± TO STA 254+25±

*TOLERANCE FOR CONSTRUCTION ±0.5%
SEE CROSS SECTIONS FOR MORE INFORMATION

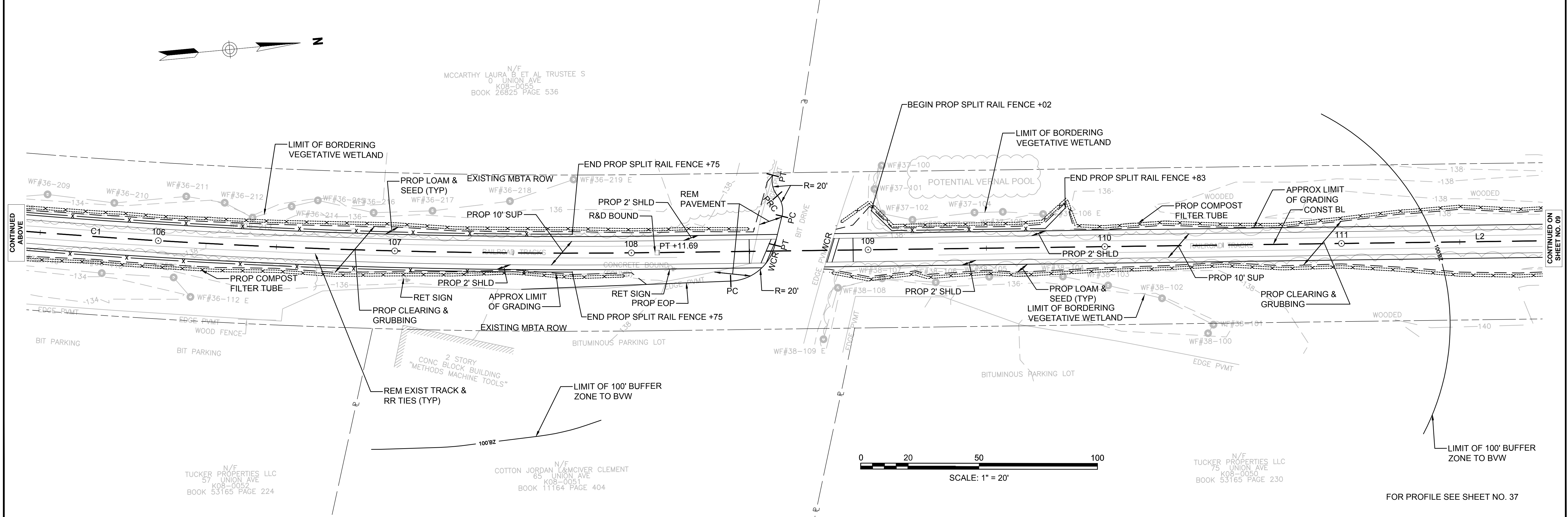
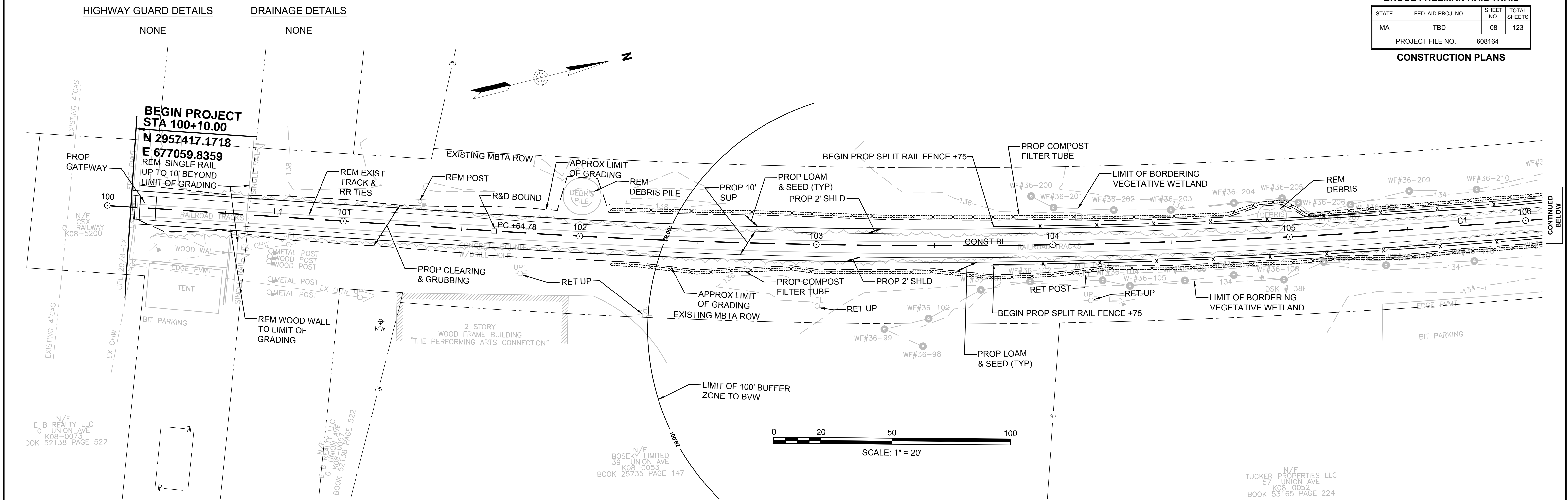


TYPICAL SECTION - BOARDWALK

STA 166+50± TO STA 174+00±

NTS

608164_HDGEN.DWG Plotted on 5-Sep-2017 11:01 AM



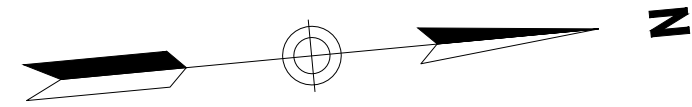
FOR PROFILE SEE SHEET NO. 37

HIGHWAY GUARD DETAILS

NONE

DRAINAGE DETAILS

NONE



N/F
 MCIVER CLEMENT L TR
 71 UNION AVE
 KOB-0087
 BOOK 14385 PAGE 266

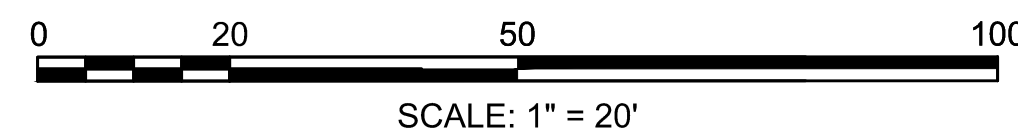
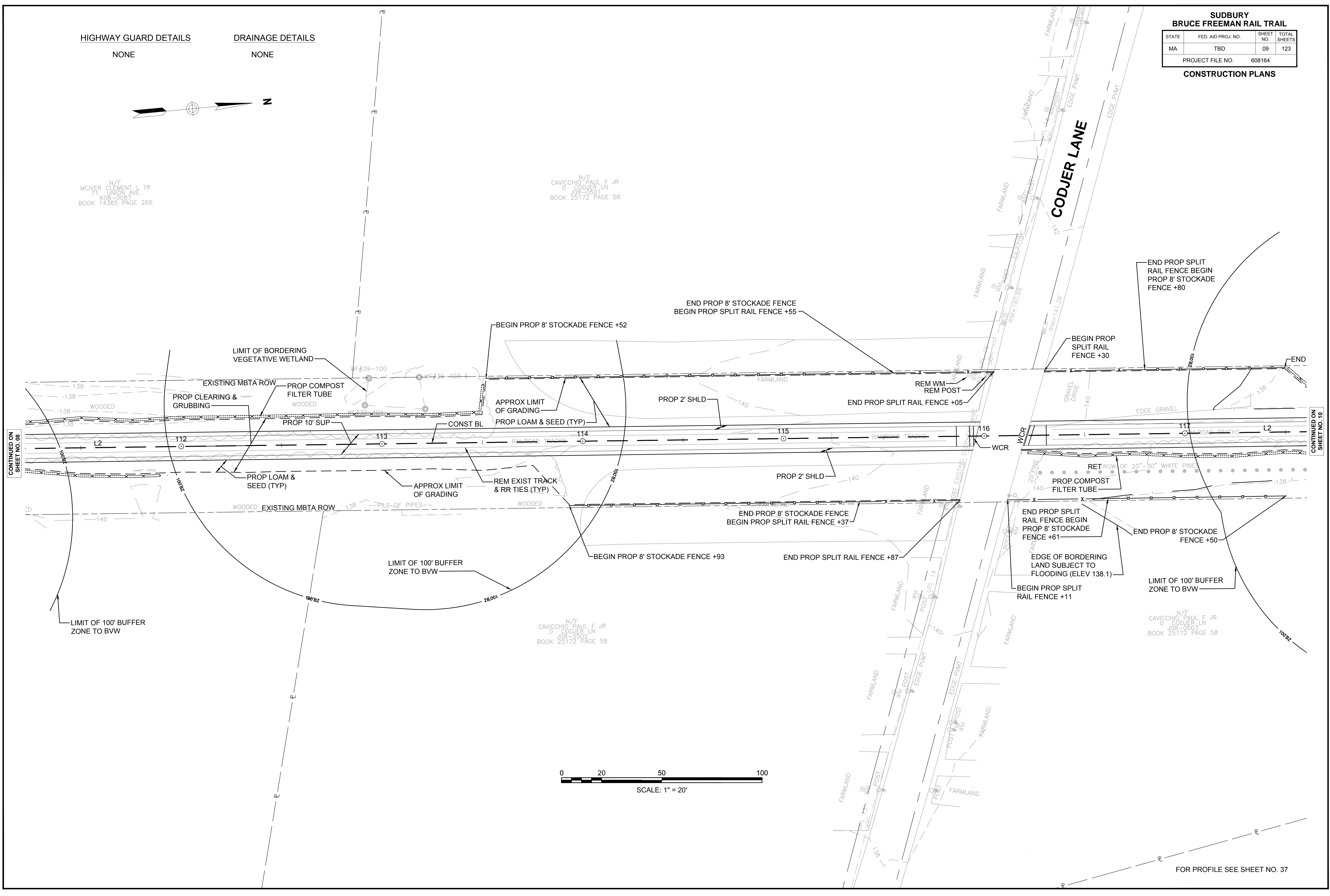
N/F
 CAVICCHIO PAUL F JR
 0 CODJER LN
 JOB-0501
 BOOK 25172 PAGE 58

N/F
 CAVICCHIO PAUL F JR
 0 CODJER LN
 JOB-0502
 BOOK 25172 PAGE 58

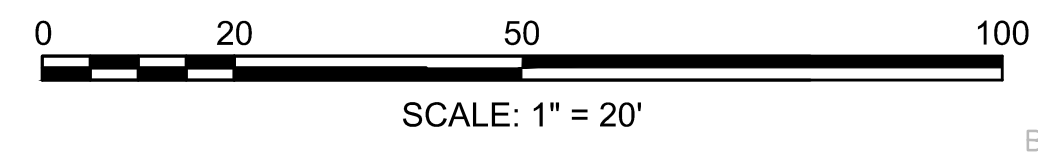
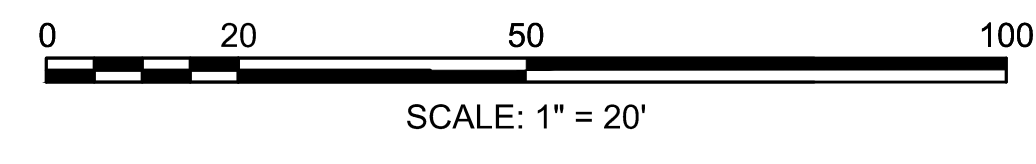
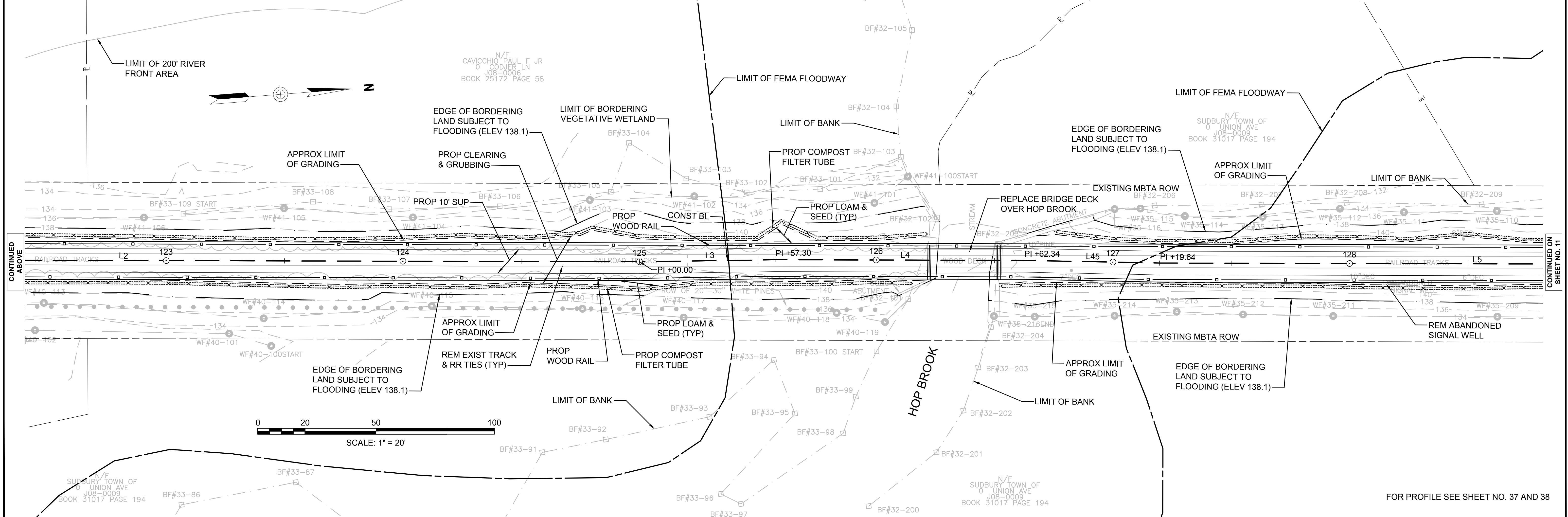
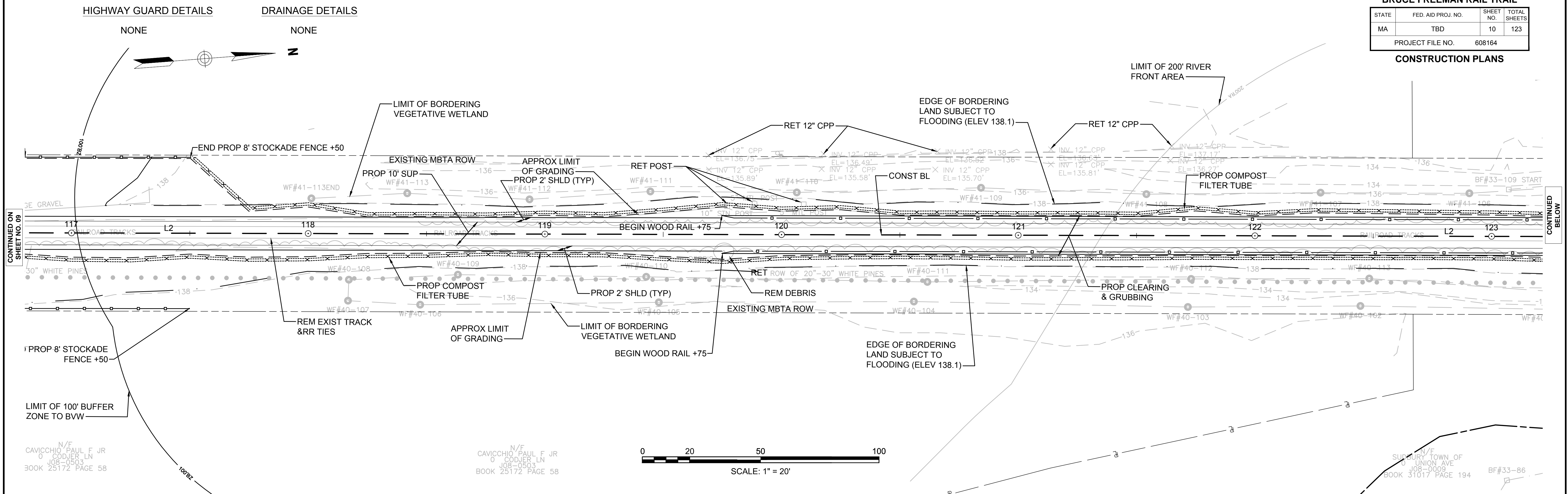
N/F
 CAVICCHIO PAUL F JR
 0 CODJER LN
 JOB-0503
 BOOK 25172 PAGE 58

CONTINUED ON
 SHEET NO. 08

CONTINUED ON
 SHEET NO. 10



FOR PROFILE SEE SHEET NO. 37



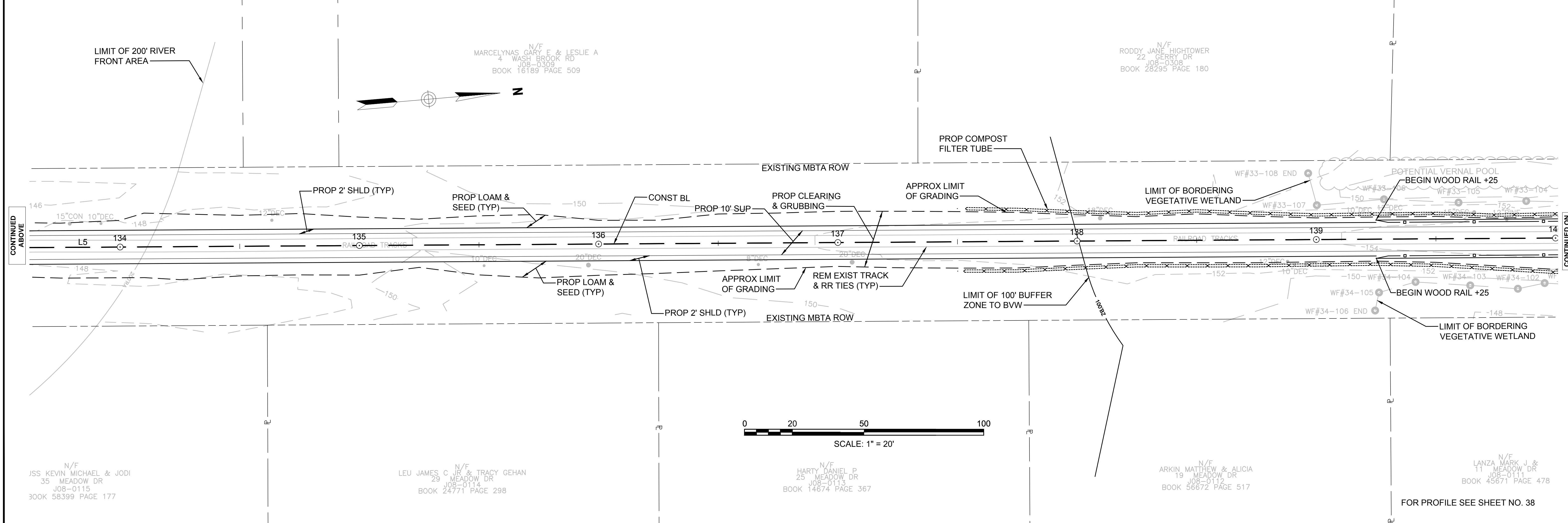
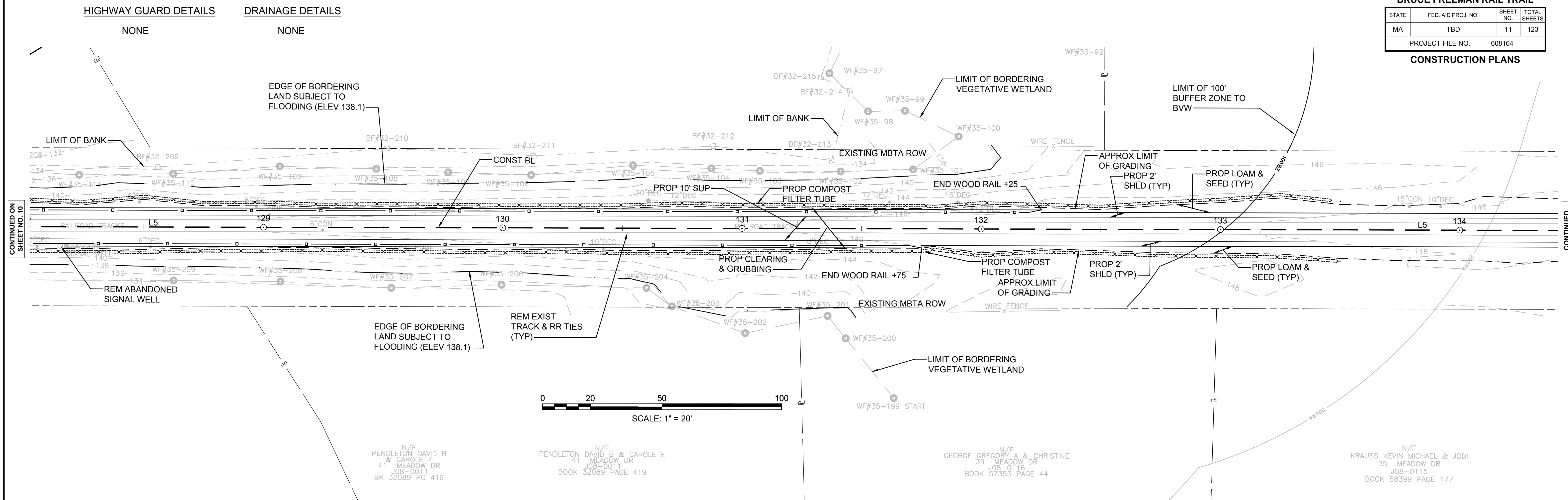
FOR PROFILE SEE SHEET NO. 37 AND 38

CONTINUED ON SHEET NO. 09

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 11



FOR PROFILE SEE SHEET NO. 38

CONTINUED ON SHEET NO. 10

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 12

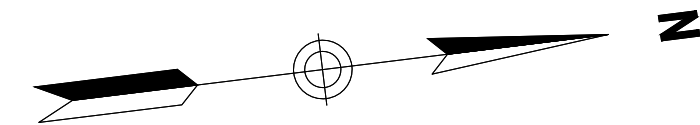
HIGHWAY GUARD DETAILS
 NONE

TRAFFIC SIGNAL CONDUIT
 SEE SHEET 52

DRAINAGE DETAILS
 SEE BELOW

GERRY DRIVE

OLD LANCASTER RD



TRIM TREES AS
 REQUIRED FOR
 SIGHT DISTANCE

N/F
 DAVIES ADRIAN G & MELINDA J
 14 GERRY DR
 JOB-0307
 BOOK 38355 PAGE 267

N/F
 JONES CHERYL
 233 OLD LANCASTER RD
 JOB-0301
 BOOK 33438 PAGE 39

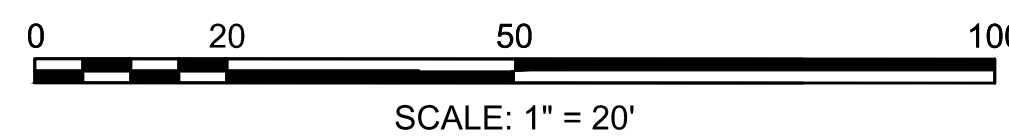
N/F
 CHO CHONG M & WAI-WAI
 236 OLD LANCASTER RD
 JOB-0011
 BOOK 45903 PAGE 51

N/F
 LANZA MARK J &
 11 MEADOW DR
 JOB-0111
 BOOK 45671 PAGE 478

N/F
 KREBS W MICHAEL & BARBARA P
 223 OLD LANCASTER RD
 JOB-0101
 BOOK 13427 PAGE 420

N/F
 MCCORMICK DAVID W JR &
 226 OLD LANCASTER RD
 JOB-0045
 BOOK 53725 PAGE 60

N/F
 NICHOLS AMRITA & ROGER W
 220 OLD LANCASTER RD
 JOB-0045
 BOOK 43651 PAGE 248



N/F
 BARRERA JOSHUA & VICTORIA
 219 OLD LANCASTER RD
 JOB-0102
 BOOK 35851 PAGE 169

FOR PROFILE SEE SHEET NO. 38

CONTINUED ON
 SHEET NO. 11

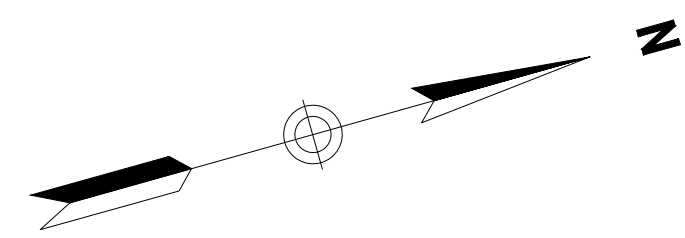
CONTINUED ON
 SHEET NO. 13

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

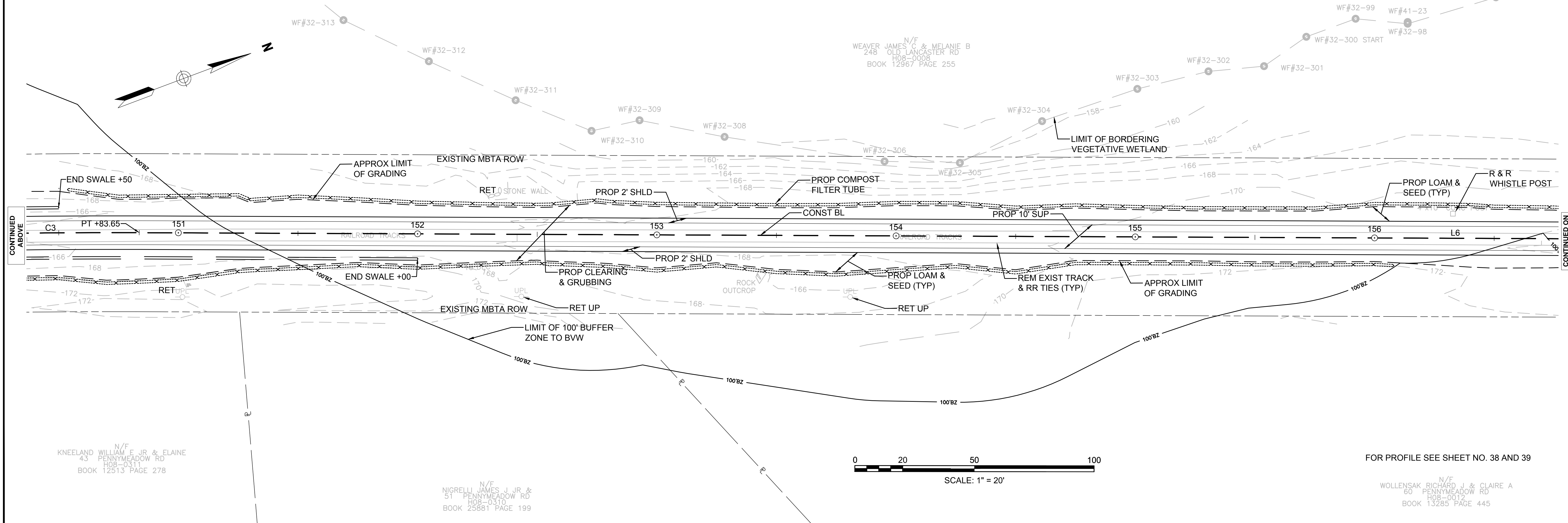
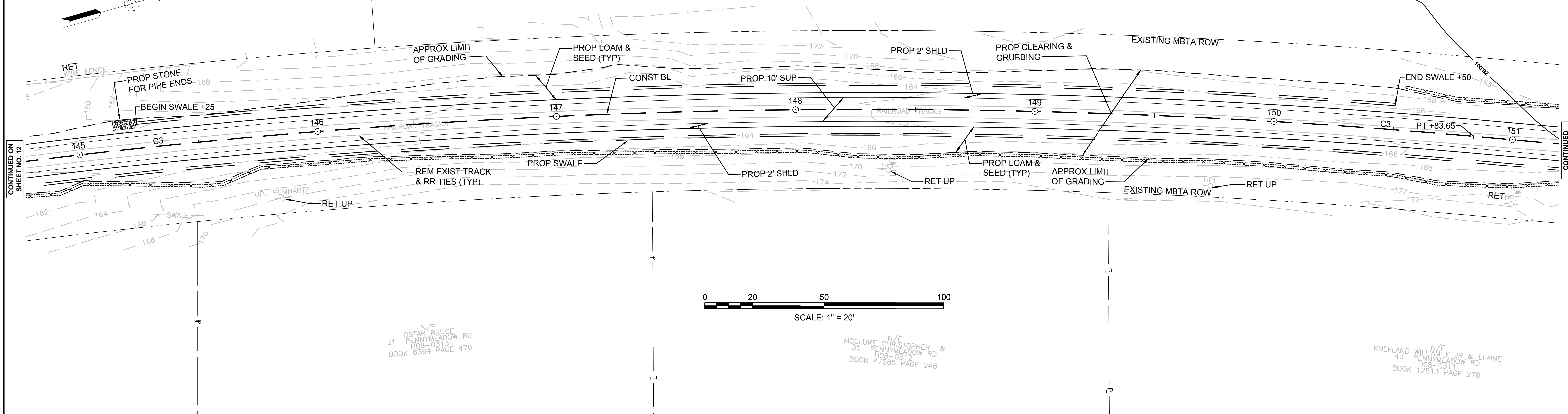
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	13	123
PROJECT FILE NO.		608164	

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS: NONE
DRAINAGE DETAILS: SEE BELOW



LIMIT OF 100' BUFFER ZONE TO BVW



FOR PROFILE SEE SHEET NO. 38 AND 39

CONTINUED ON SHEET NO. 12

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 14

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	15	123

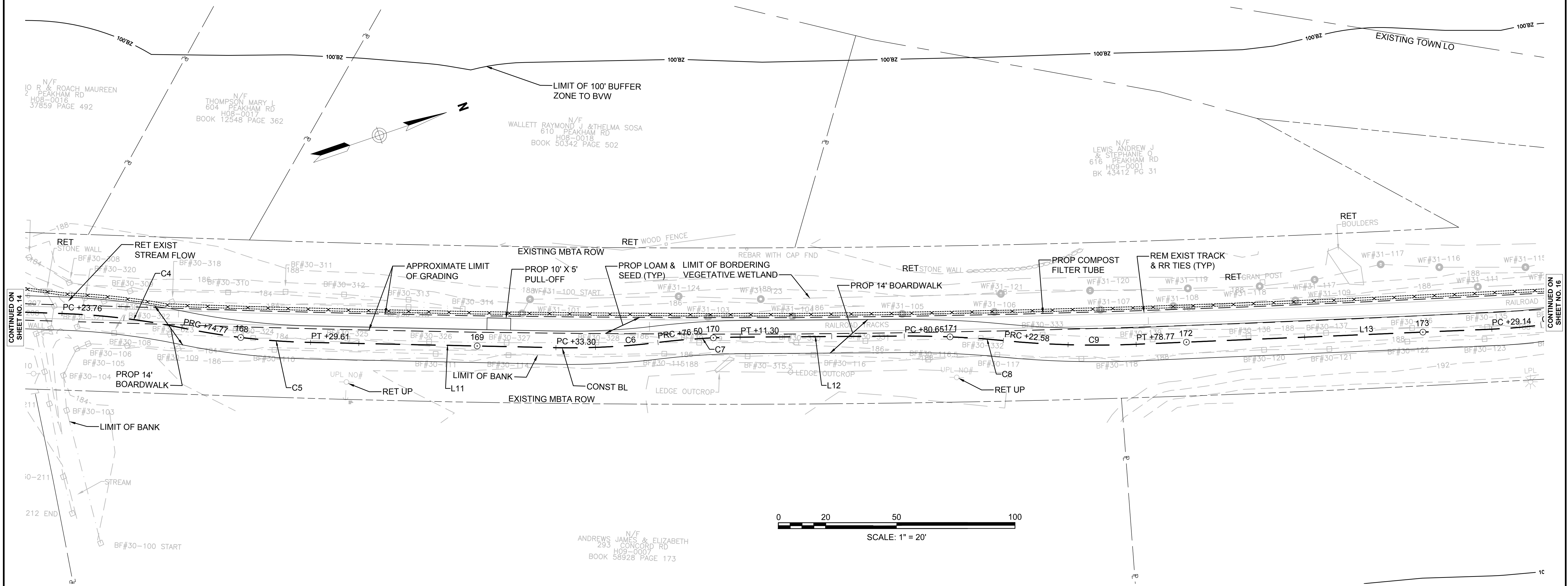
PROJECT FILE NO. 608164

CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS DRAINAGE DETAILS

NONE

NONE



CONTINUED ON SHEET NO. 14

CONTINUED ON SHEET NO. 16

FOR PROFILE SEE SHEET NO. 40

HIGHWAY GUARD DETAILS

NONE

TRAFFIC SIGNAL CONDUIT

SEE SHEET 56

DRAINAGE DETAILS

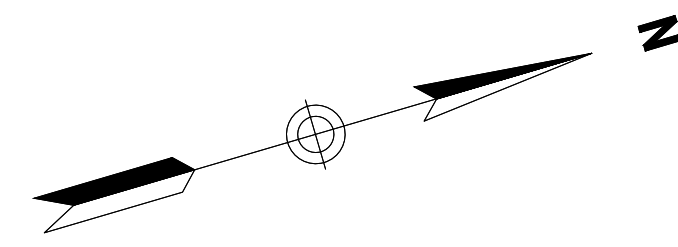
SEE BELOW

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	16	123

PROJECT FILE NO. 608164

CONSTRUCTION PLANS



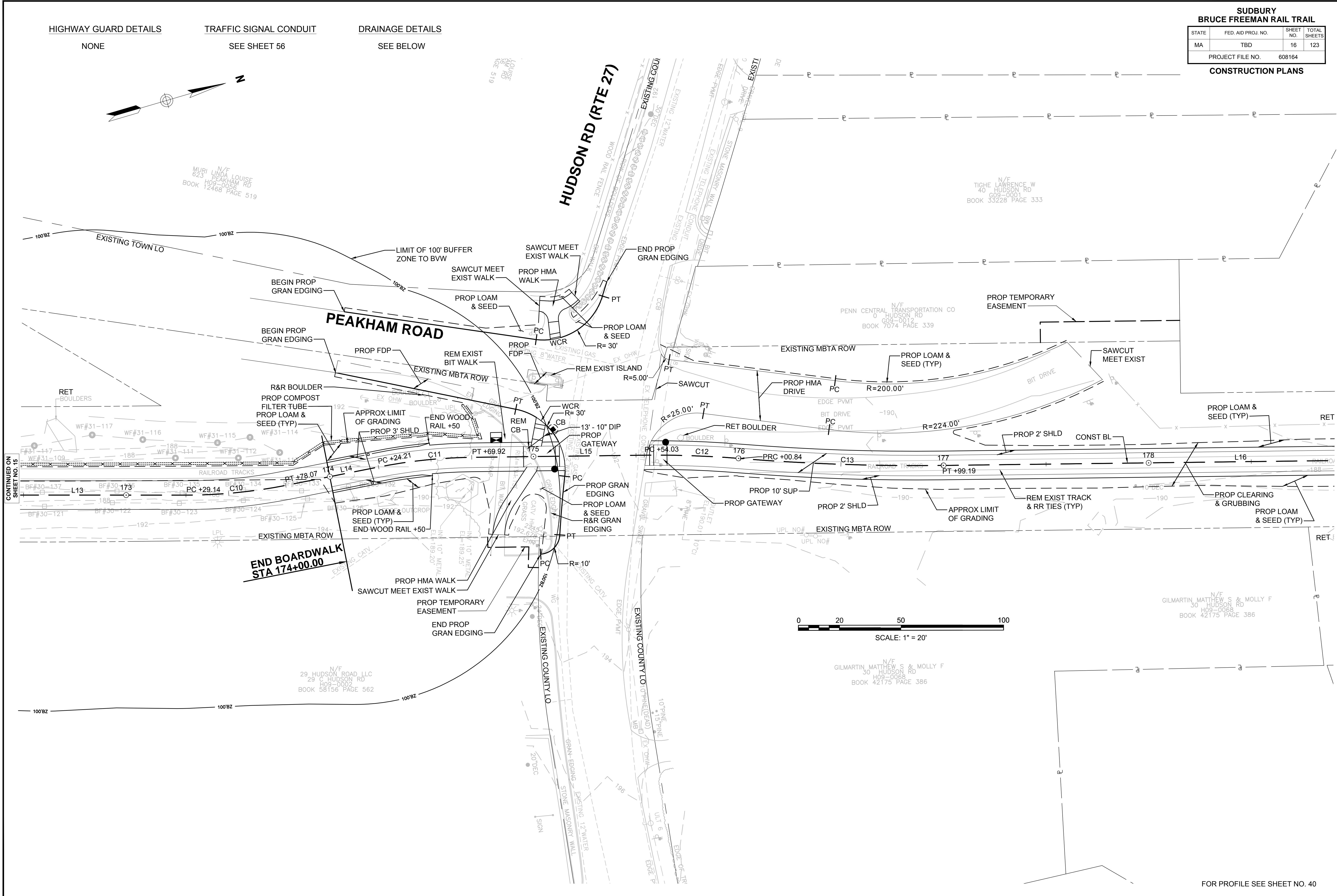
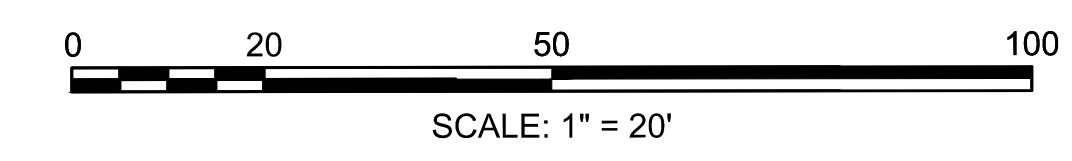
N/F
MURI LINDA LOUISE
623 PEAKHAM RD
H09-0056
BOOK 12468 PAGE 519

N/F
TIGHE LAWRENCE W
40 HUDSON RD
G09-0001
BOOK 33228 PAGE 333

N/F
PENN CENTRAL TRANSPORTATION CO
HUDSON RD
G09-0012
BOOK 7074 PAGE 339

N/F
GILMARTIN MATTHEW S & MOLLY F
30 HUDSON RD
H09-0068
BOOK 42175 PAGE 386

N/F
GILMARTIN MATTHEW S & MOLLY F
30 HUDSON RD
H09-0068
BOOK 42175 PAGE 386



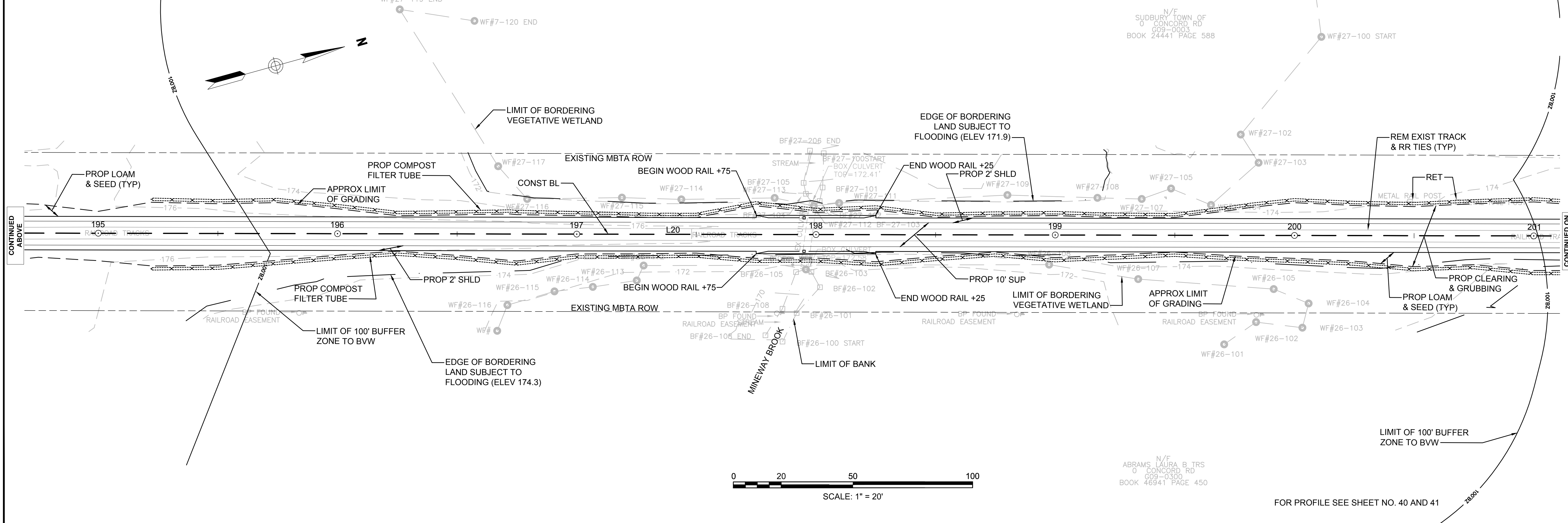
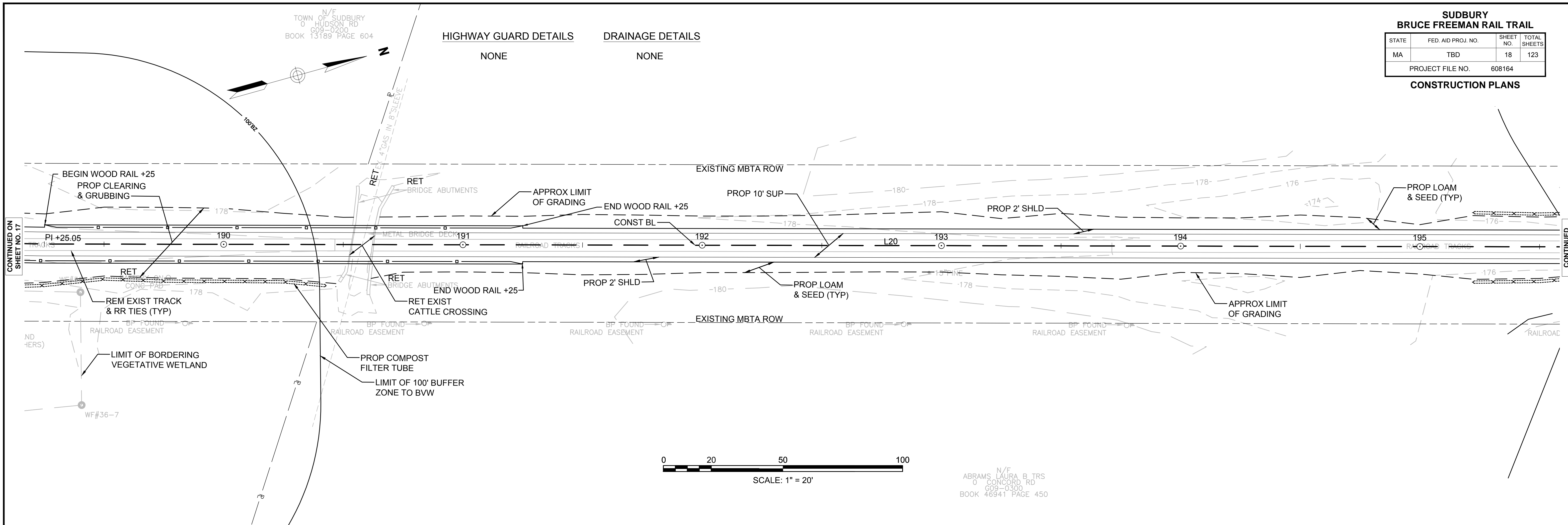
CONTINUED ON SHEET NO. 15

CONTINUED ON SHEET NO. 17

FOR PROFILE SEE SHEET NO. 40

HIGHWAY GUARD DETAILS NONE
 DRAINAGE DETAILS NONE

N/F
 TOWN OF SUDBURY
 0 HUDSON RD
 099-0200
 BOOK 13189 PAGE 604



FOR PROFILE SEE SHEET NO. 40 AND 41

CONTINUED ON SHEET NO. 17

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 19

N/F
 ABRAMS LAURA B TRS
 0 CONCORD RD
 099-0300
 BOOK 46941 PAGE 450

N/F
 ABRAMS LAURA B TRS
 0 CONCORD RD
 099-0300
 BOOK 46941 PAGE 450

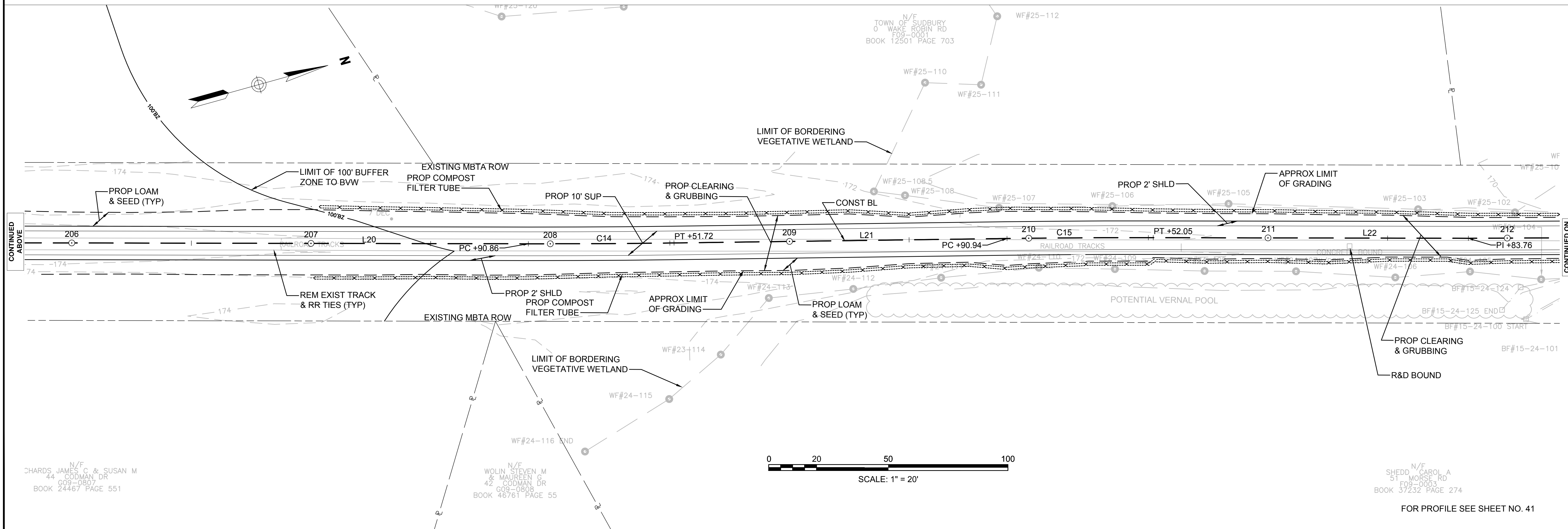
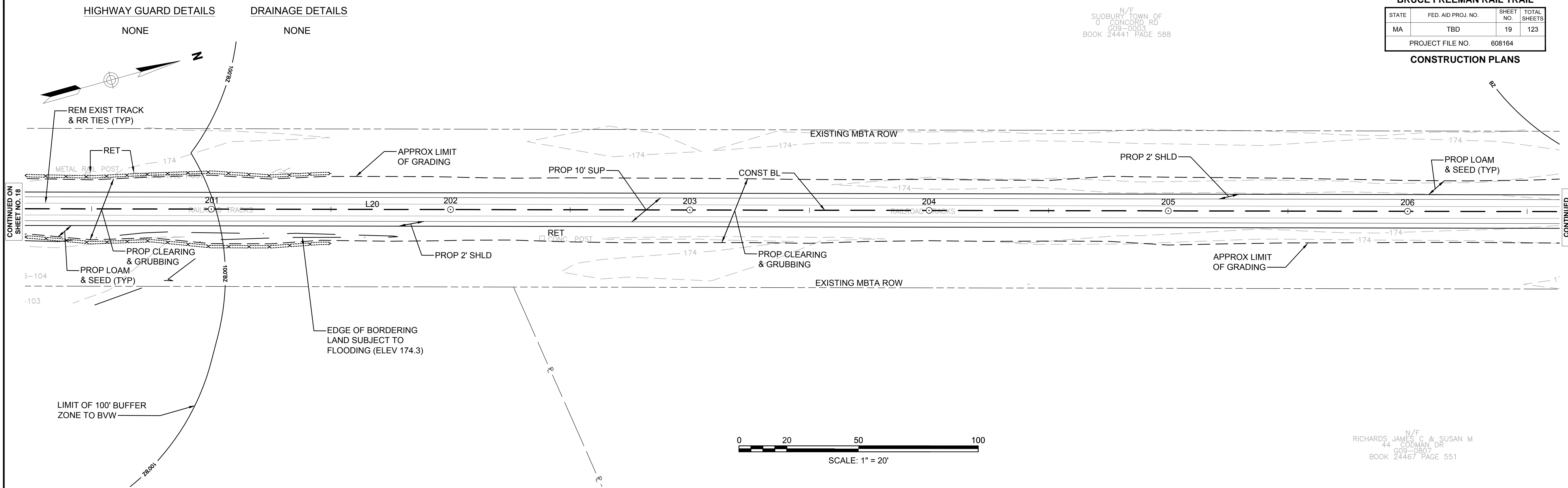
SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	19	123

PROJECT FILE NO. 608164
CONSTRUCTION PLANS

N/F
SUDBURY TOWN OF
0 CONCORD RD
609-0003
BOOK 24441 PAGE 588

Plotted on 5-Sep-2017 11:05 AM



N/F
RICHARDS JAMES C & SUSAN M
44 CODMAN DR
609-0807
BOOK 24467 PAGE 551

N/F
WOLIN STEVEN M & MAUREEN G
42 CODMAN DR
609-0808
BOOK 46761 PAGE 55

N/F
SHEDD CAROL A
51 MORSE RD
609-0003
BOOK 37232 PAGE 274

FOR PROFILE SEE SHEET NO. 41

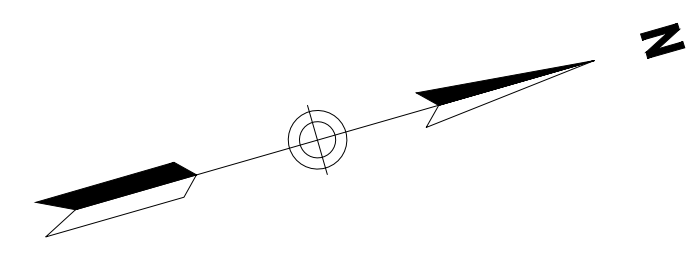
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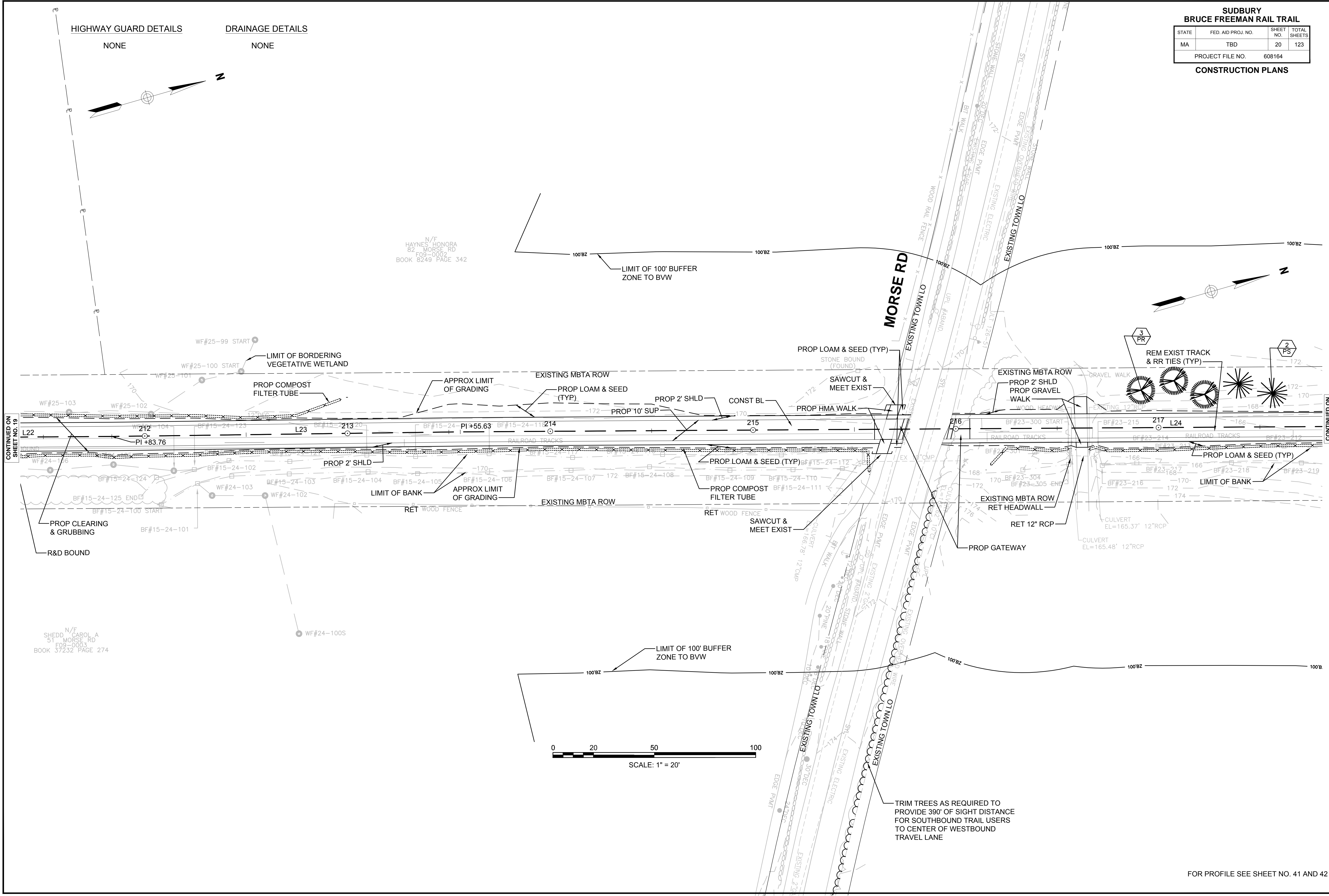
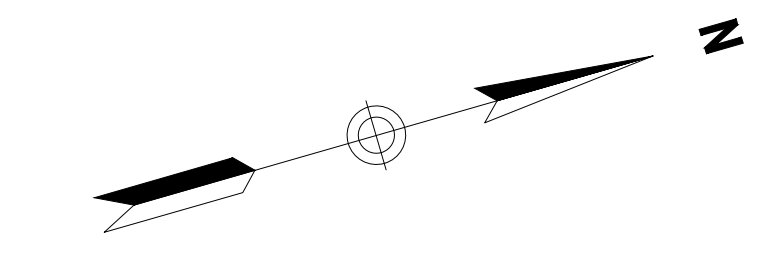
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CONTINUED ON SHEET NO. 20

HIGHWAY GUARD DETAILS NONE
 DRAINAGE DETAILS NONE



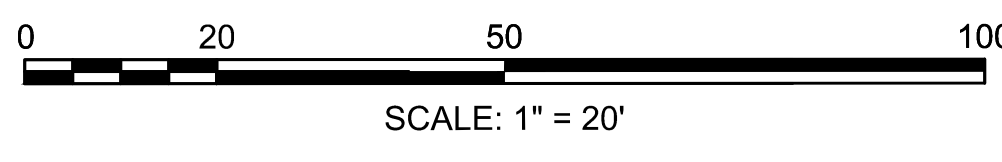
N/F HAYNES HONORA
 82 MORSE RD
 F09-0002
 BOOK 8249 PAGE 342



CONTINUED ON SHEET NO. 19

CONTINUED ON SHEET NO. 21

N/F SHEDD CAROL A
 51 MORSE RD
 F09-0003
 BOOK 37232 PAGE 274

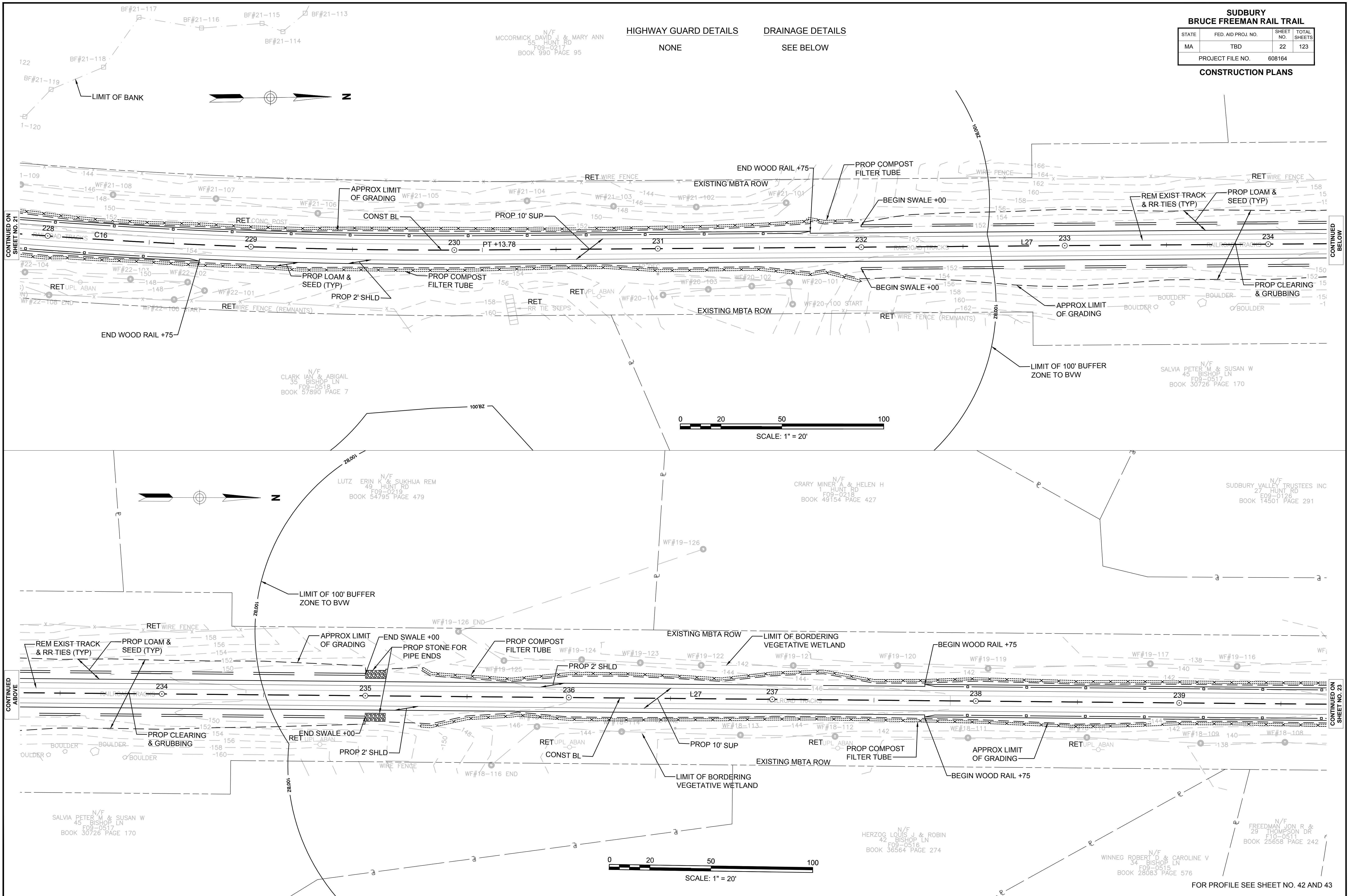


TRIM TREES AS REQUIRED TO PROVIDE 390' OF SIGHT DISTANCE FOR SOUTHBOUND TRAIL USERS TO CENTER OF WESTBOUND TRAVEL LANE

FOR PROFILE SEE SHEET NO. 41 AND 42

HIGHWAY GUARD DETAILS NONE
 DRAINAGE DETAILS SEE BELOW

N/F MCCORMICK DAVID J & MARY ANN
 55 HUNT RD
 F09-0217
 BOOK 990 PAGE 95



CONTINUED ON SHEET NO. 21

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 23

N/F CLARK IAN & ABIGAIL
 35 BISHOP LN
 F09-0518
 BOOK 57890 PAGE 7

N/F LUTZ ERIN K & SUKHJIA REM
 49 HUNT RD
 F09-0219
 BOOK 54795 PAGE 479

N/F CRARY MINER A & HELEN H
 1 HUNT RD
 F09-0218
 BOOK 49154 PAGE 427

N/F SUDBURY VALLEY TRUSTEES INC
 27 HUNT RD
 F09-0126
 BOOK 14501 PAGE 291

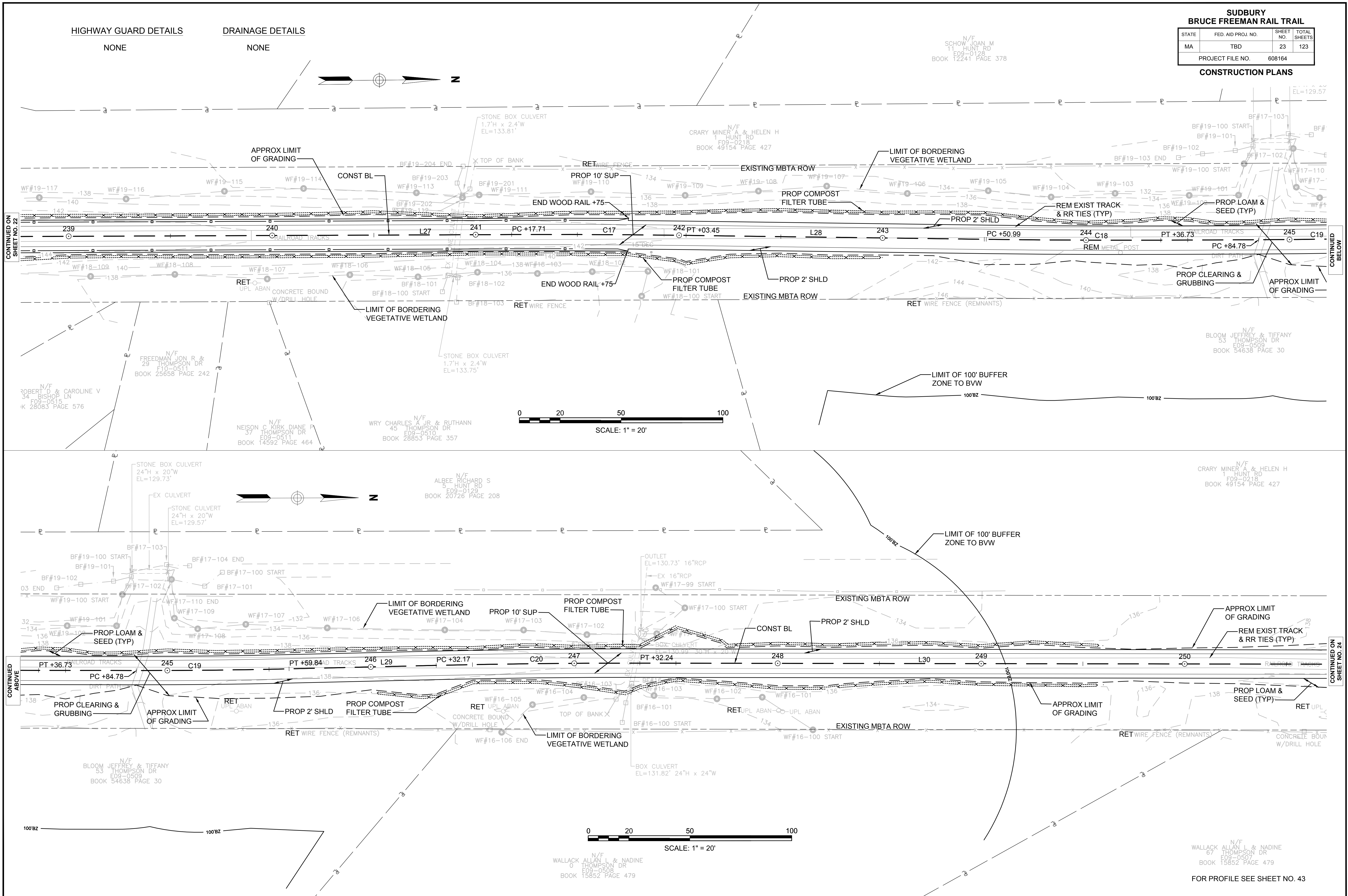
N/F SALVIA PETER M & SUSAN W
 45 BISHOP LN
 F09-0517
 BOOK 30726 PAGE 170

N/F HERZOG LOUIS J & ROBIN
 42 BISHOP LN
 F09-0516
 BOOK 36564 PAGE 274

N/F WINNEG ROBERT D & CAROLINE V
 34 BISHOP LN
 F09-0515
 BOOK 28083 PAGE 576

N/F FREEDMAN JON R & THOMPSON DR
 F10-0511
 BOOK 25658 PAGE 242

FOR PROFILE SEE SHEET NO. 42 AND 43



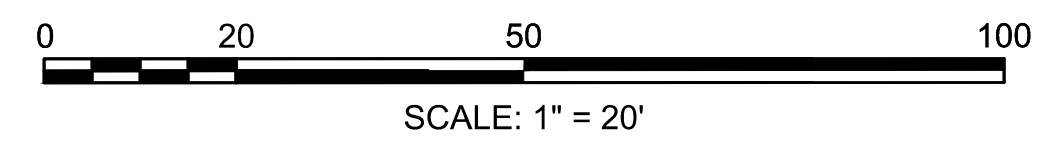
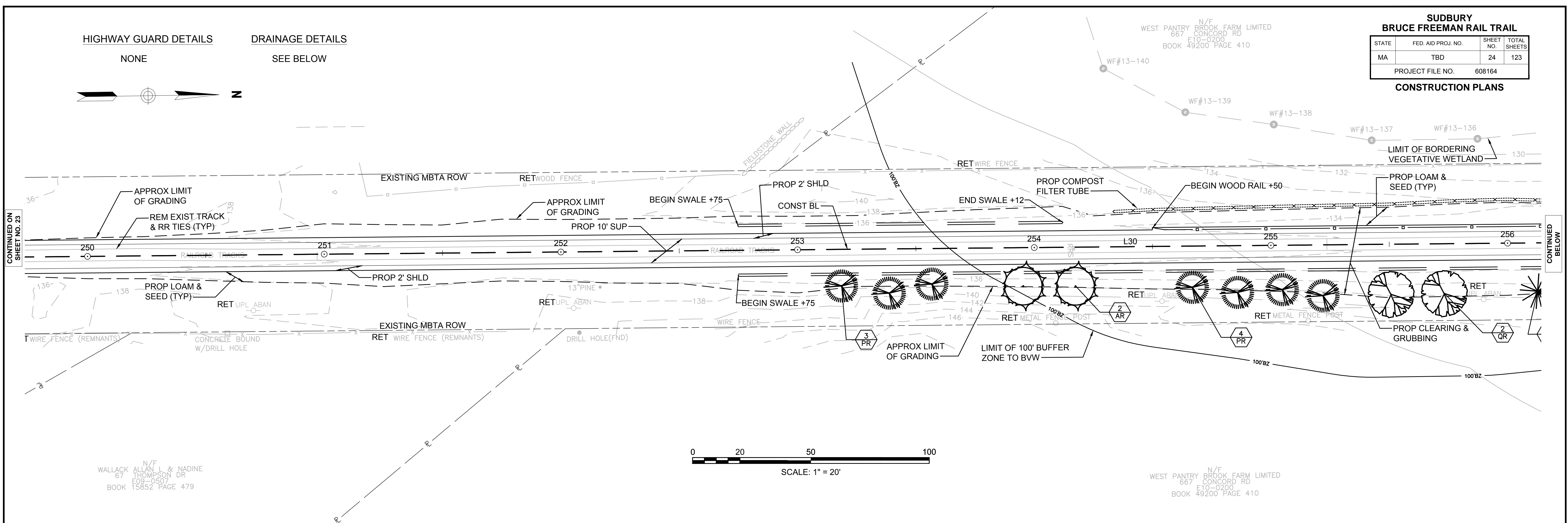
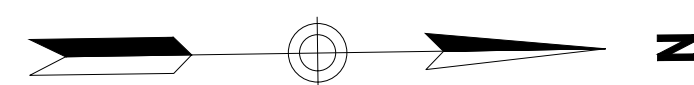
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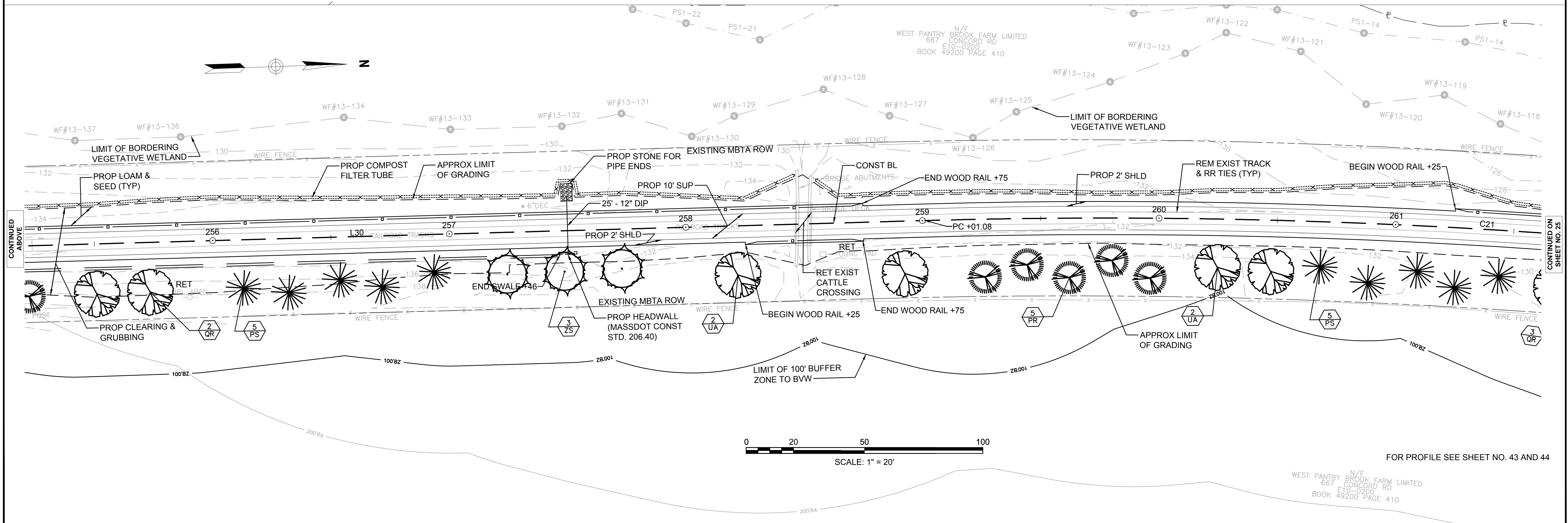
CONTINUED ON SHEET NO. 24

HIGHWAY GUARD DETAILS NONE
DRAINAGE DETAILS SEE BELOW



N/F
WALLACK ALLAN L & NADINE
67 THOMPSON DR
E09-0507
BOOK 15852 PAGE 479

N/F
WEST PANTRY BROOK FARM LIMITED
667 CONCORD RD
E10-0200
BOOK 49200 PAGE 410



FOR PROFILE SEE SHEET NO. 43 AND 44

N/F
WEST PANTRY BROOK FARM LIMITED
667 CONCORD RD
E10-0200
BOOK 49200 PAGE 410

CONTINUED ON SHEET NO. 23

CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 25

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	26	123

PROJECT FILE NO. 608164
CONSTRUCTION PLANS

HIGHWAY GUARD DETAILS
NONE

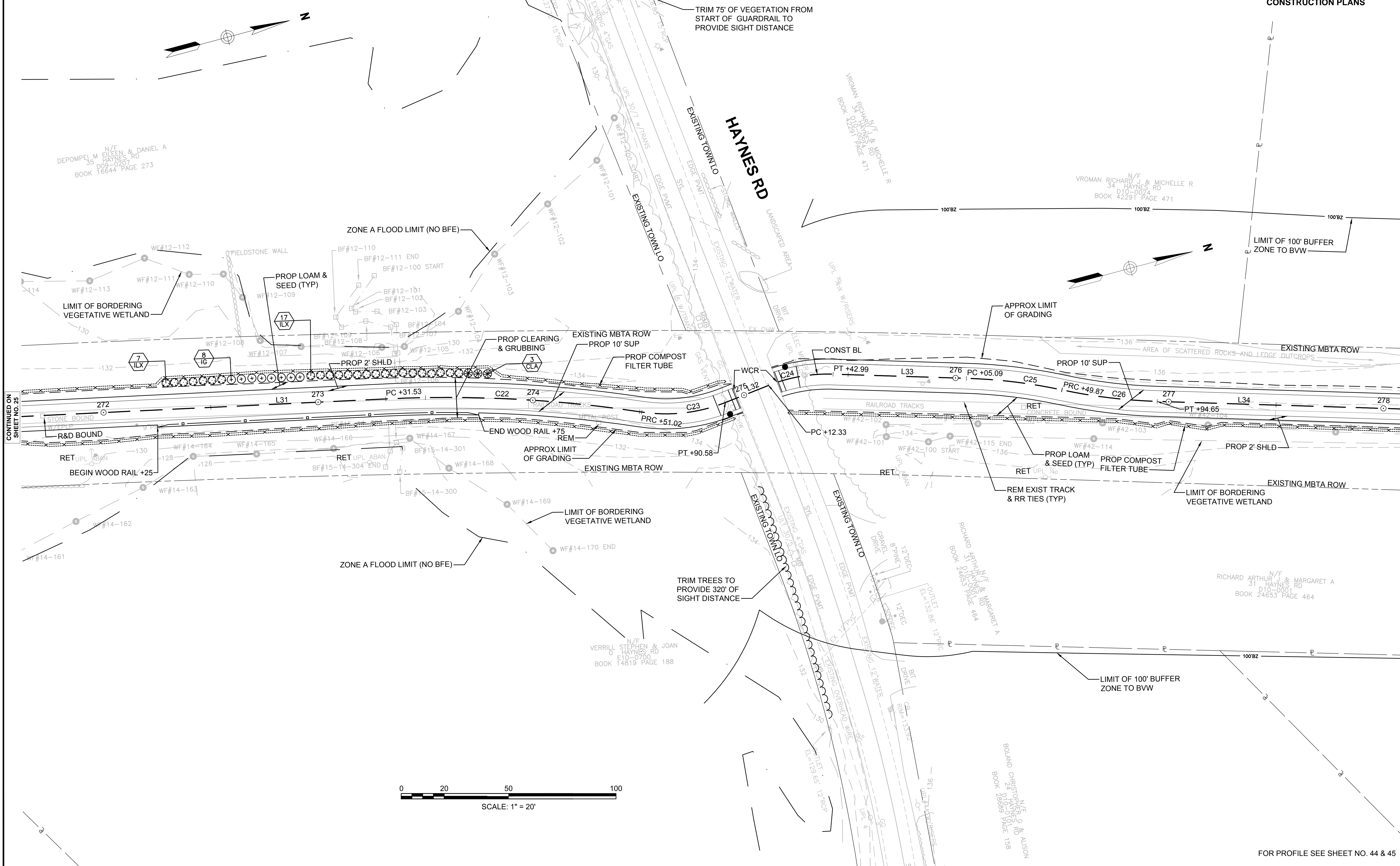
TRAFFIC SIGNAL CONDUIT
SEE SHEET 68

WATER SUPPLY ALTERATIONS
NONE

DRAINAGE DETAILS
NONE

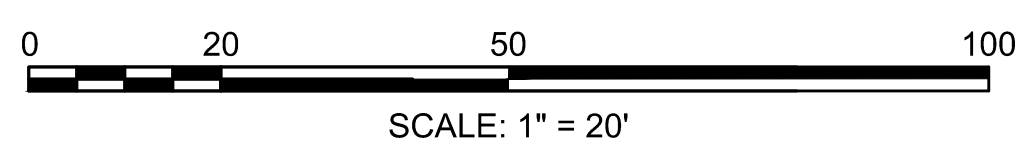
TRIM 75' OF VEGETATION FROM
START OF GUARDRAIL TO
PROVIDE SIGHT DISTANCE

HAYNES RD



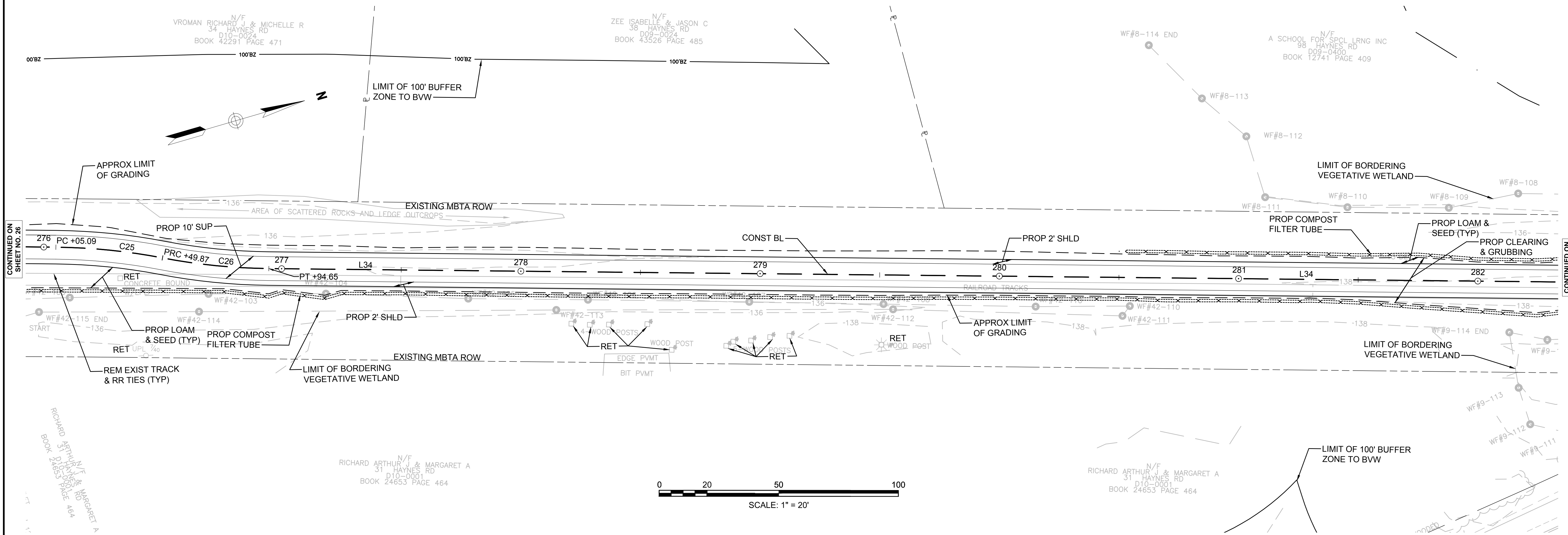
CONTINUED ON
SHEET NO. 25

CONTINUED ON
SHEET NO. 27



FOR PROFILE SEE SHEET NO. 44 & 45

HIGHWAY GUARD DETAILS NONE
DRAINAGE DETAILS NONE



CONTINUED ON SHEET NO. 26

CONTINUED ON SHEET NO. 28

RICHARD ARTHUR J & MARGARET A
31 HAYNES RD
D10-0001
BOOK 24653 PAGE 464

RICHARD ARTHUR J & MARGARET A
31 HAYNES RD
D10-0001
BOOK 24653 PAGE 464

RICHARD ARTHUR J & MARGARET A
31 HAYNES RD
D10-0001
BOOK 24653 PAGE 464

HIGHWAY GUARD DETAILS
 STA 284+30 LT TERMINAL END
 STA 284+30 TO STA 284+48 LT MEET EXIST
 STA 284+53 RT MEET EXIST TO STA 284+65 RT
 STA 284+65 RT TERMINAL END
 STA 285+14 TO 284+77 LT TANGENT END

TRAFFIC SIGNAL CONDUIT
 SEE SHEET 68

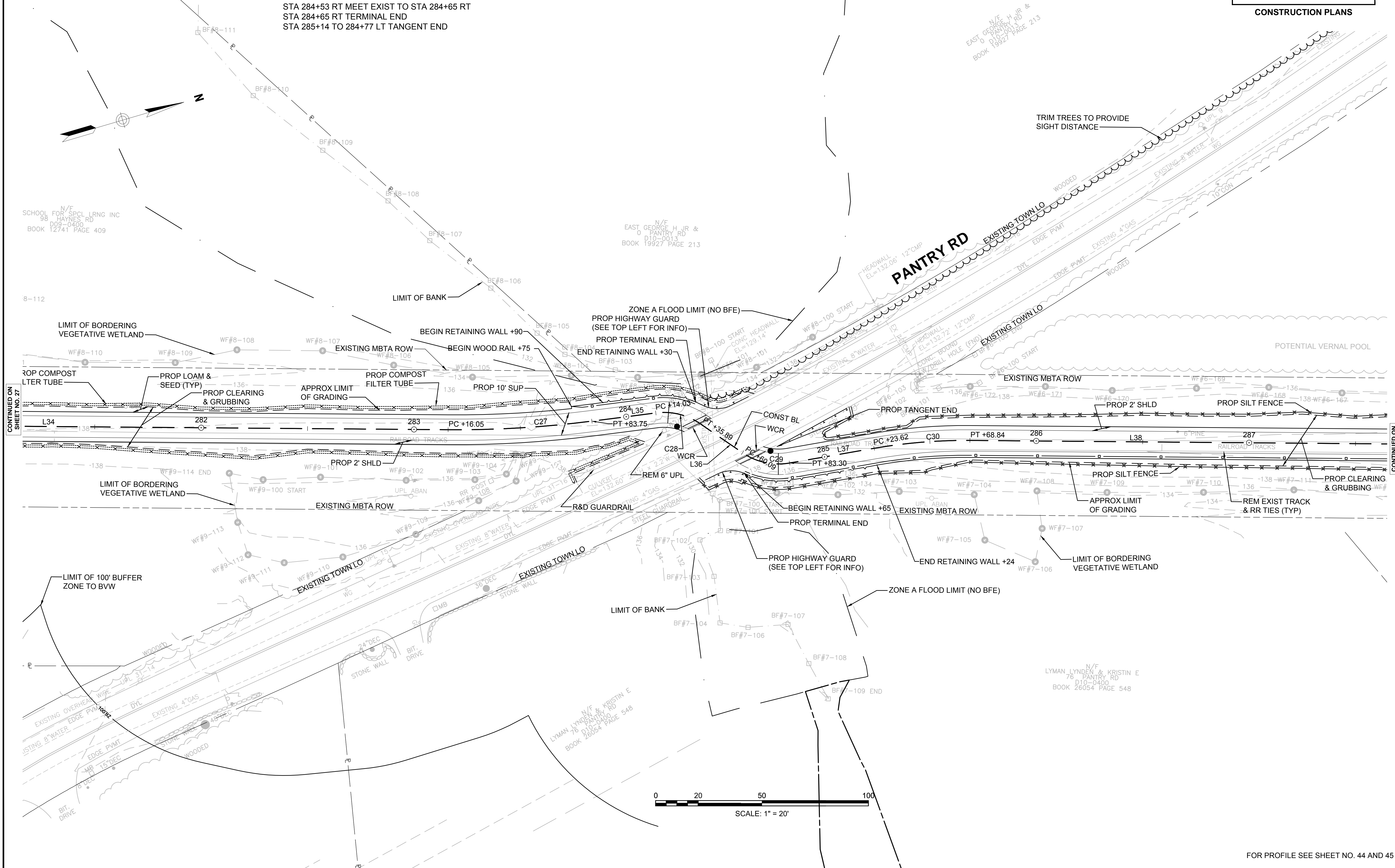
DRAINAGE DETAILS
 NONE

N/E
 EAST GEORGE H JR &
 PANTRY RD
 D10-0013
 BOOK 19927 PAGE 213

N/F
 SCHOOL FOR SPCL LRNG INC
 98 HAYNES RD
 D09-0400
 BOOK 12741 PAGE 409

N/E
 EAST GEORGE H JR &
 PANTRY RD
 D10-0013
 BOOK 19927 PAGE 213

TRIM TREES TO PROVIDE
 SIGHT DISTANCE



CONTINUED ON
 SHEET NO. 27

CONTINUED ON
 SHEET NO. 29

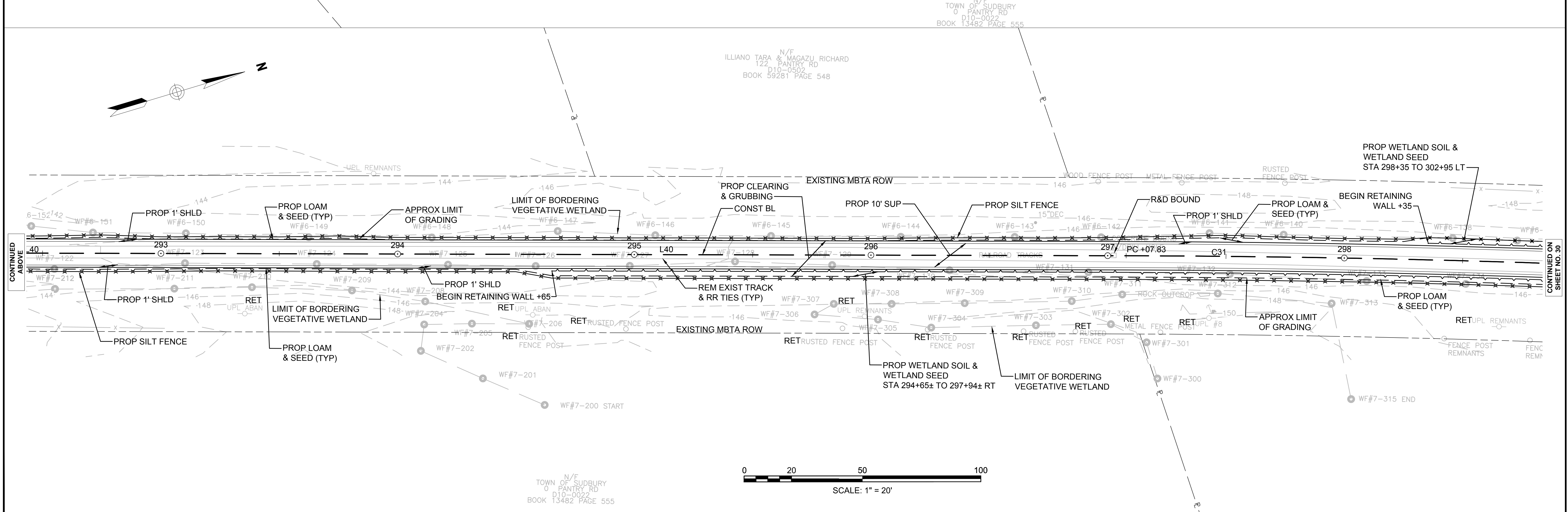
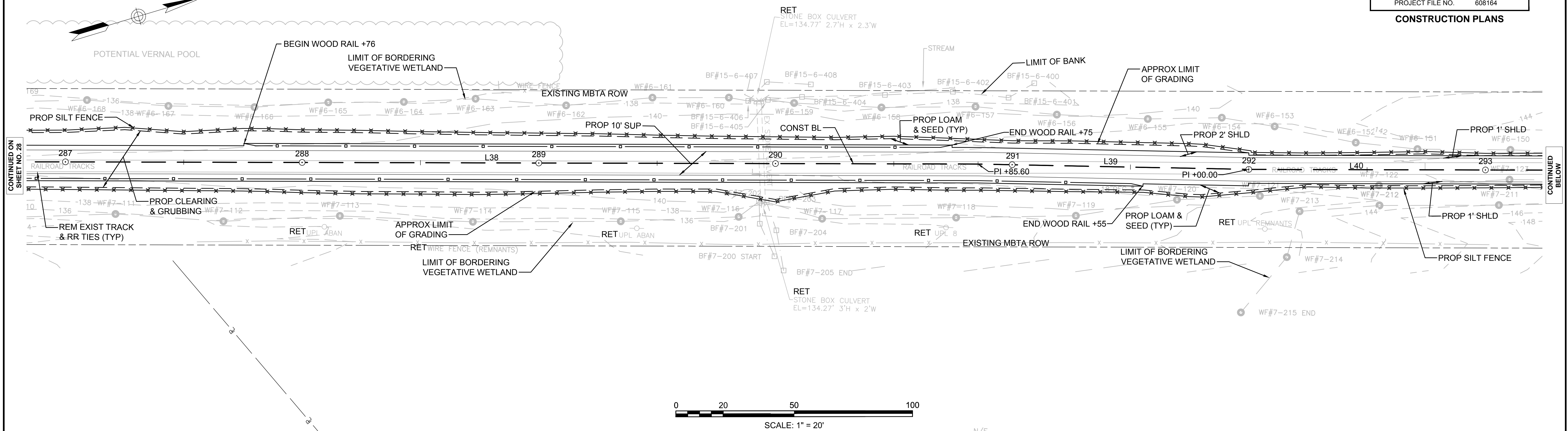


N/F
 LYMAN LYNDEN & KRISTIN E
 76 PANTRY RD
 D10-0400
 BOOK 26054 PAGE 548

FOR PROFILE SEE SHEET NO. 44 AND 45

HIGHWAY GUARD DETAILS
 NONE

DRAINAGE DETAILS
 NONE



FOR PROFILE SEE SHEET NO. 45

CONTINUED ON
 SHEET NO. 28

CONTINUED
 BELOW

CONTINUED
 ABOVE

CONTINUED ON
 SHEET NO. 30

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	30	123

PROJECT FILE NO. 608164
CONSTRUCTION PLANS

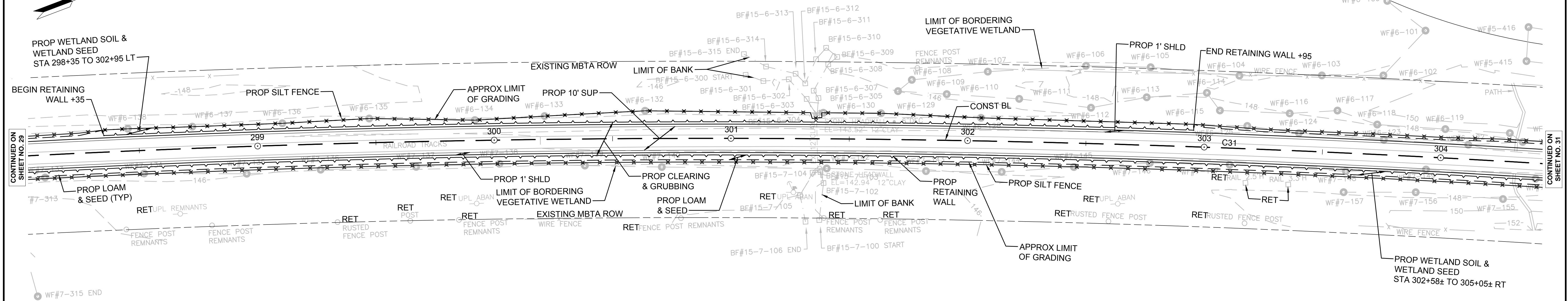
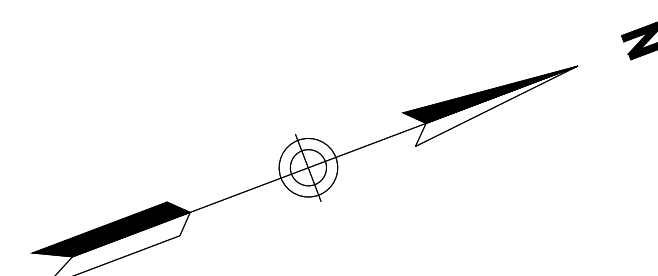
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NONE

DRAINAGE DETAILS

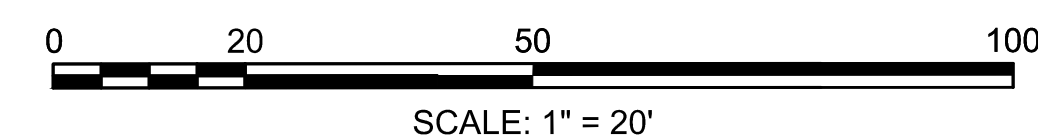
NONE

N/E
BROCHU MARY F TRUSTEE
0 WINDMILL DR
C10-0006
BOOK 16775 PAGE 585



CONTINUED ON
SHEET NO. 29

CONTINUED ON
SHEET NO. 31



N/E
TOWN OF SUDBURY
211 NORTH RD
D10-0300
BOOK 12726 PAGE 603

FOR PROFILE SEE SHEET NO. 45 AND 46

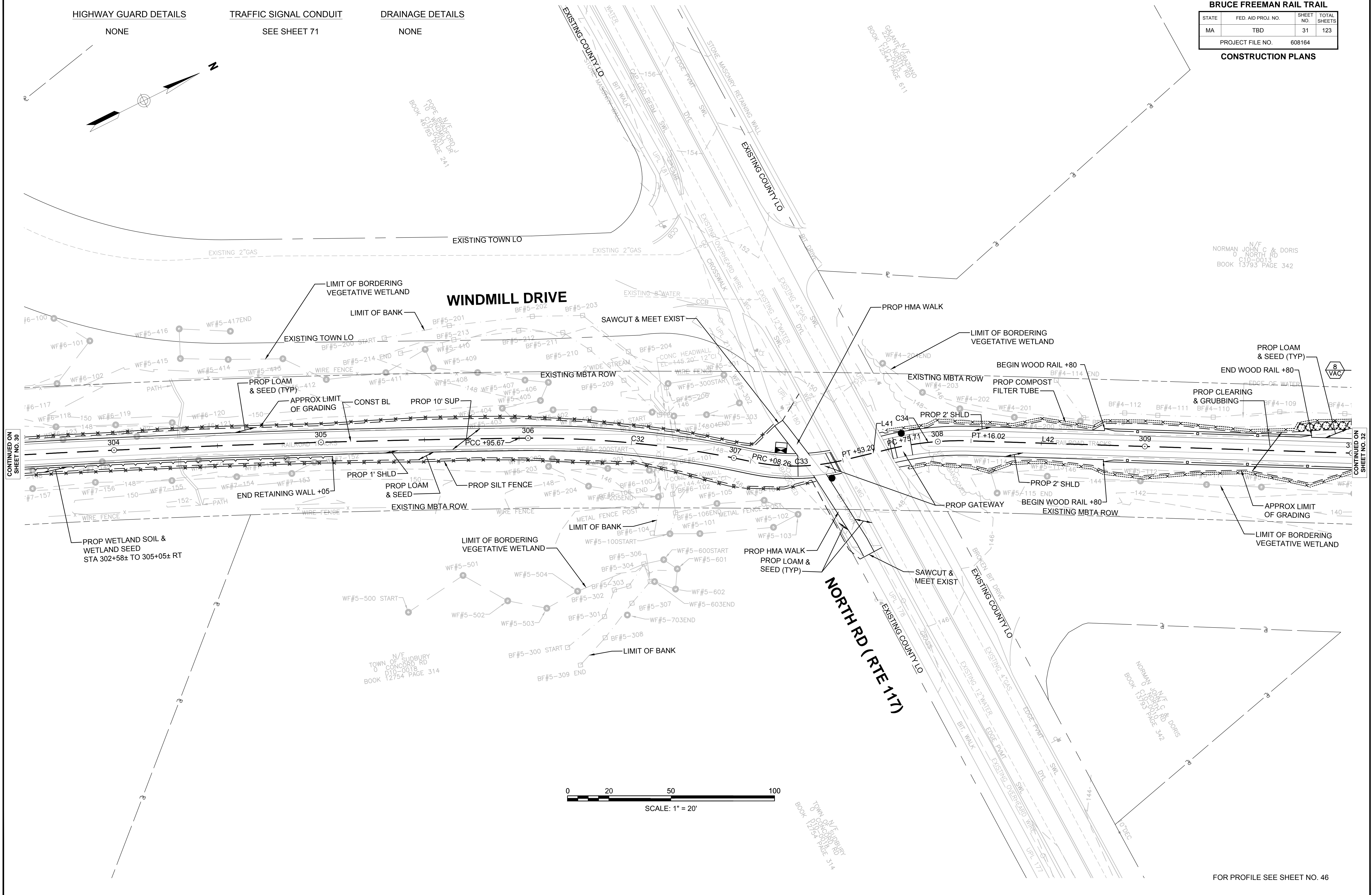
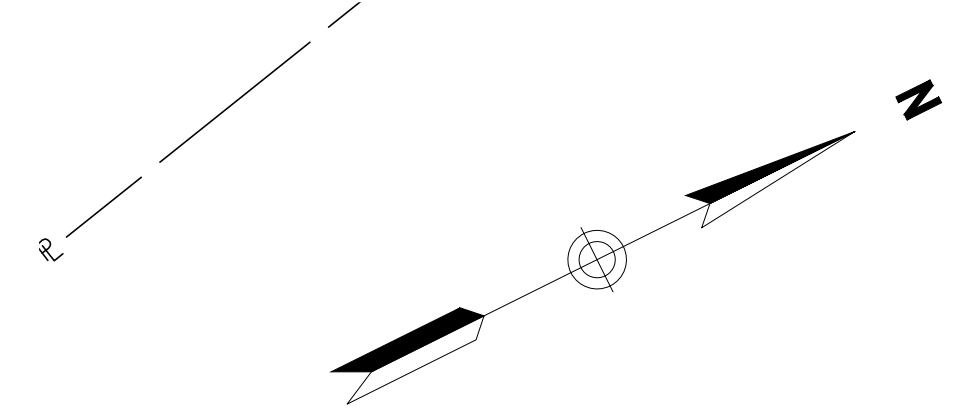
SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	31	123

PROJECT FILE NO. 608164
CONSTRUCTION PLANS

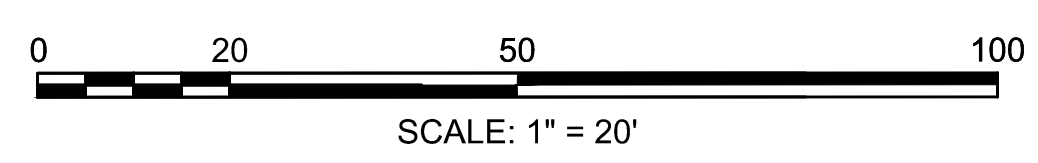
608164_HDGEN.DWG Plotted on 5-Sep-2017 11:09 AM

HIGHWAY GUARD DETAILS NONE
TRAFFIC SIGNAL CONDUIT SEE SHEET 71
DRAINAGE DETAILS NONE

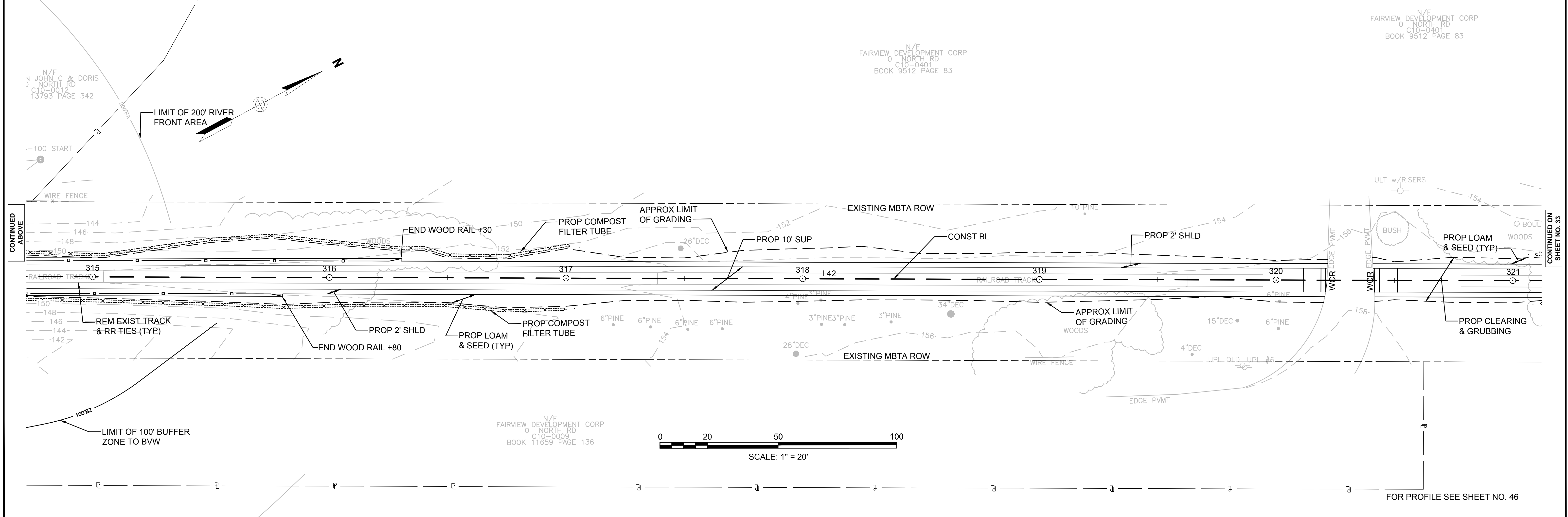
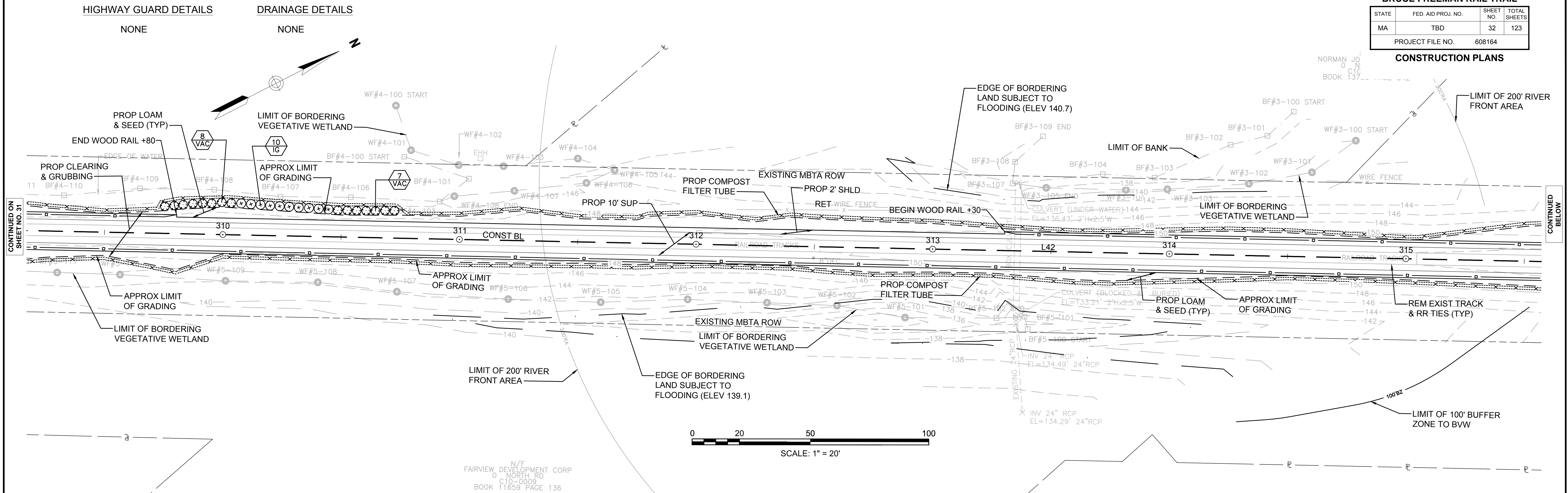


CONTINUED ON SHEET NO. 30

CONTINUED ON SHEET NO. 32



FOR PROFILE SEE SHEET NO. 46



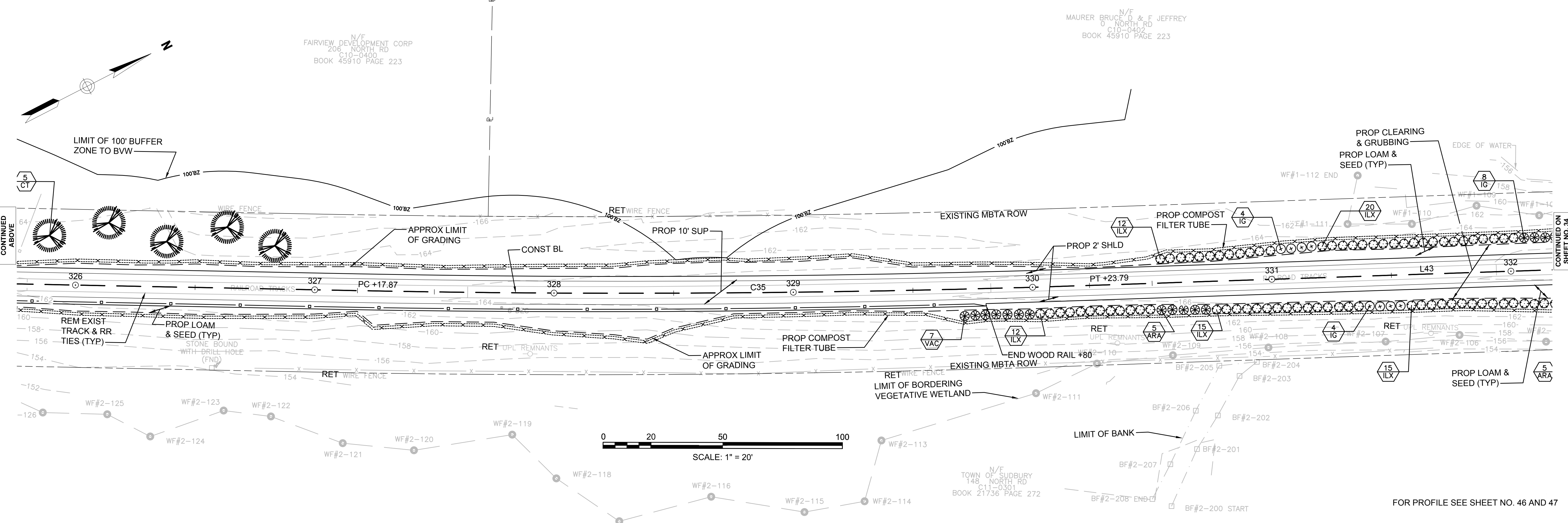
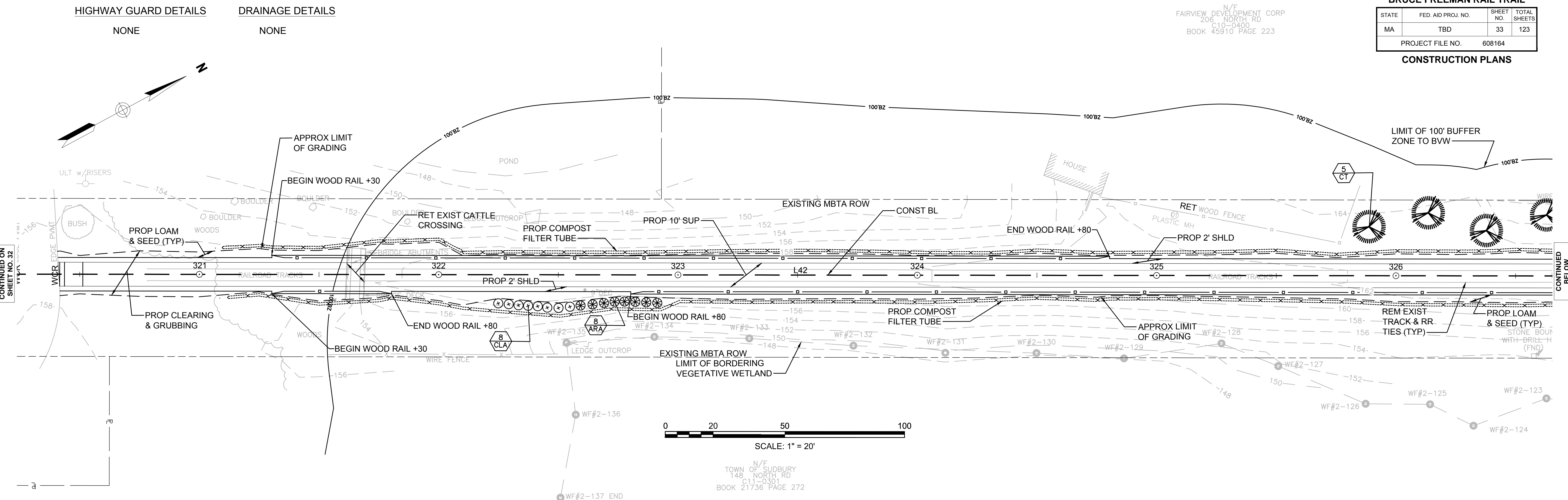
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CONTINUED BELOW

CONTINUED ABOVE

CONTINUED ON SHEET NO. 33

N/F
 FAIRVIEW DEVELOPMENT CORP
 206 NORTH RD
 C10-0400
 BOOK 45910 PAGE 223



CONTINUED ON SHEET NO. 32

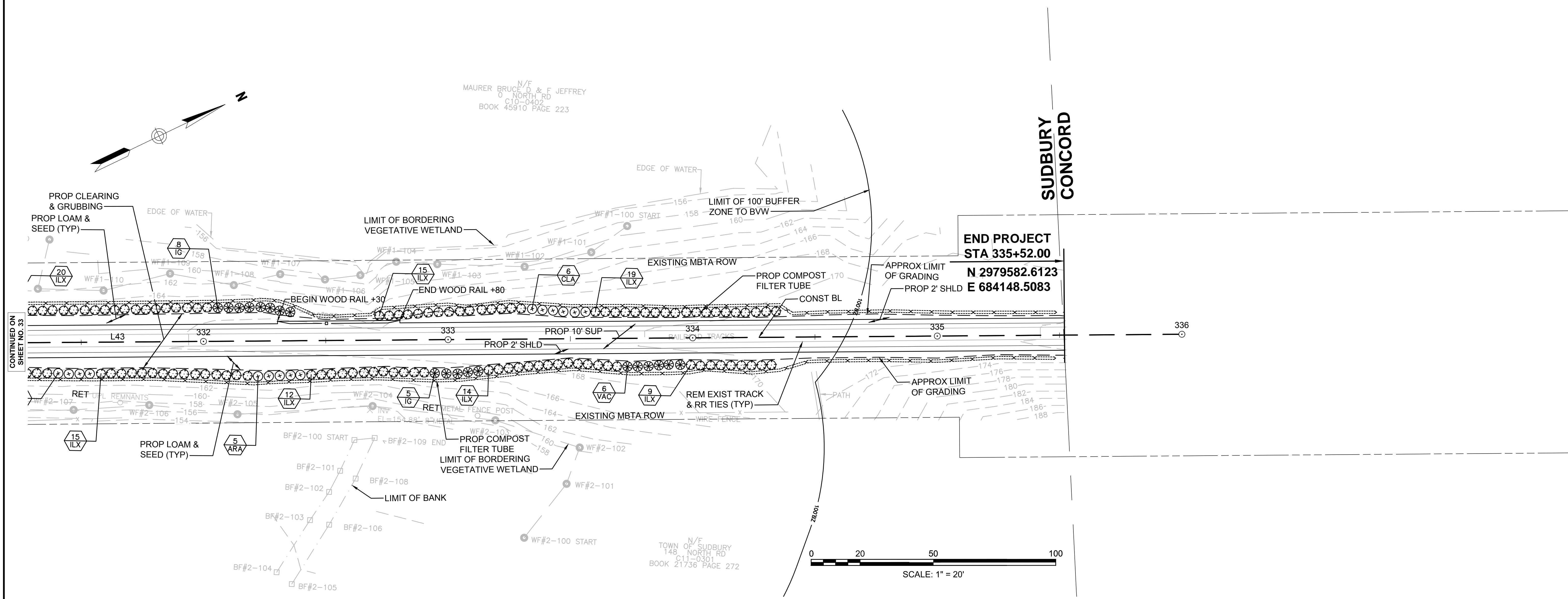
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CONTINUED ABOVE

CONTINUED ON SHEET NO. 34

SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	34	123
PROJECT FILE NO.		608164	
CONSTRUCTION PLANS			

HIGHWAY GUARD DETAILS NONE
DRAINAGE DETAILS NONE



FOR PROFILE SEE SHEET NO. 47

608164_HDGEN.DWG Plotted on 5-Sep-2017 11:10 AM

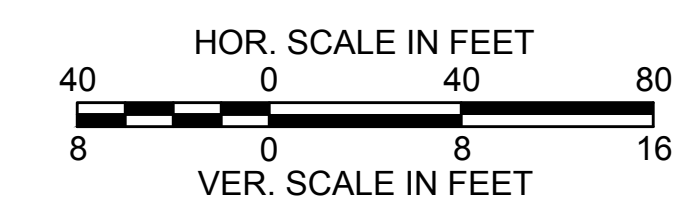
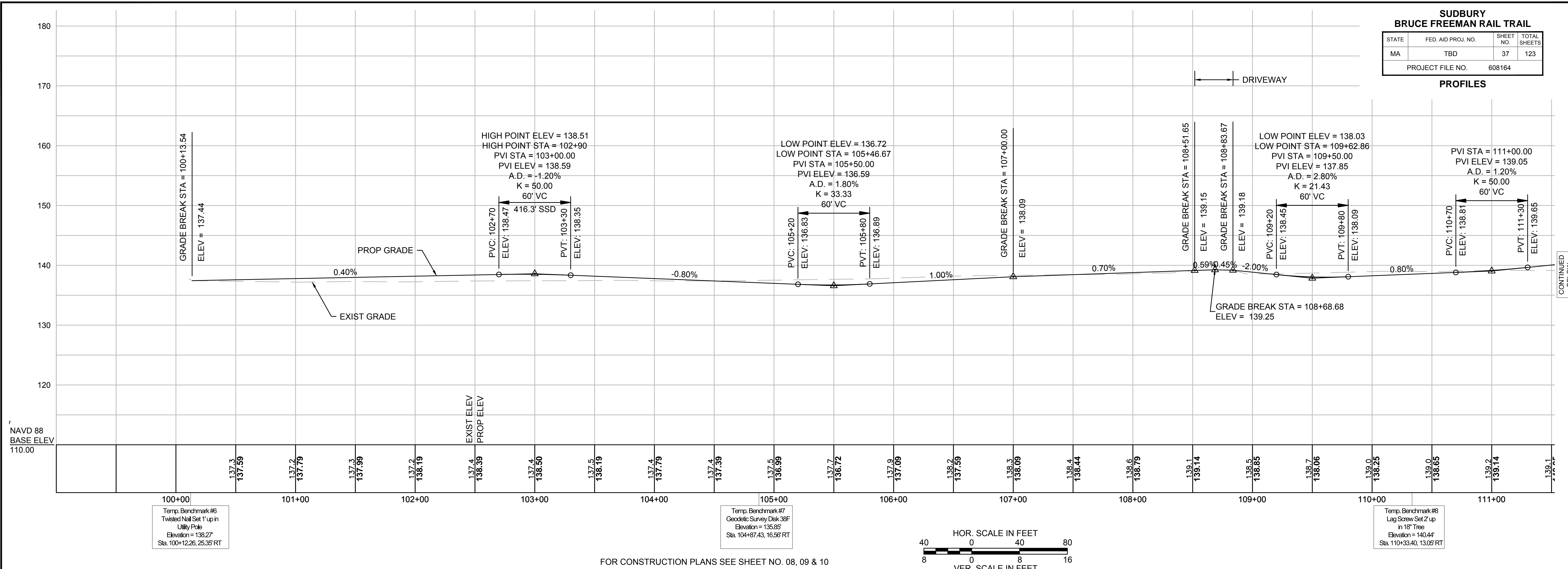
PR-BFRT CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L1	100+00.00	2957407.8807	677056.1380		N21°42'10"E 164.78'	101+64.78	2957560.9793	677117.0715
C1	101+64.78	2957560.9793	677117.0715	R=2865.00' Δ=12°56'14" L=646.91' T=324.84'		108+11.69	2958183.8310	677286.6939
L2	108+11.69	2958183.8310	677286.6939		N8°45'56"E 1688.31'	125+00.00	2959852.4247	677543.9747
L3	125+00.00	2959852.4247	677543.9747		N7°45'56"E 57.30'	125+57.30	2959909.1979	677551.7168
L4	125+57.30	2959909.1979	677551.7168		N8°45'56"E 105.05'	126+62.34	2960013.0168	677567.7246
L45	126+62.34	2960013.0168	677567.7246		N9°45'56"E 57.30'	127+19.64	2960069.4852	677577.4433
L5	127+19.64	2960069.4852	677577.4433		N8°45'56"E 1556.13'	142+75.77	2961607.4408	677814.5810
C3	142+75.77	2961607.4408	677814.5810	R=2865.00' Δ=16°09'23" L=807.88' T=406.64'		150+83.65	2962378.1042	678047.8987
L6	150+83.65	2962378.1042	678047.8987		N24°55'19"E 766.36'	158+50.02	2963073.1056	678370.8299
L7	158+50.02	2963073.1056	678370.8299		N25°03'54"E 200.00'	160+50.02	2963254.2726	678455.5602
L8	160+50.02	2963254.2726	678455.5602		N25°05'30"E 281.30'	163+31.32	2963509.0238	678574.8486
L9	163+31.32	2963509.0238	678574.8486		N24°36'59"E 249.97'	165+81.29	2963736.2797	678678.9727
L10	165+81.29	2963736.2797	678678.9727		N24°55'19"E 142.47'	167+23.76	2963865.4836	678739.0070
C4	167+23.76	2963865.4836	678739.0070	R=300.00' Δ=9°44'33" L=51.01' T=25.57'		167+74.77	2963909.6990	678764.3223
C5	167+74.77	2963909.6990	678764.3223	R=300.00' Δ=10°28'26" L=54.84' T=27.50'		168+29.61	2963957.3984	678791.2295
L11	168+29.61	2963957.3984	678791.2295		N24°11'25"E 103.68'	169+33.30	2964051.9761	678833.7152
C6	169+33.30	2964051.9761	678833.7152	R=300.00' Δ=8°15'05" L=43.20' T=21.64'		169+76.50	2964092.5236	678848.5250
C7	169+76.50	2964092.5236	678848.5250	R=300.00' Δ=6°38'49" L=34.80' T=17.42'		170+11.30	2964125.3602	678860.0000
L12	170+11.30	2964125.3602	678860.0000		N22°35'09"E 69.35'	170+80.65	2964189.3904	678886.6345
C8	170+80.65	2964189.3904	678886.6345	R=400.00' Δ=6°00'21" L=41.93' T=20.98'		171+22.58	2964227.1884	678904.7350
C9	171+22.58	2964227.1884	678904.7350	R=400.00' Δ=8°02'53" L=56.19' T=28.14'		171+78.77	2964278.2466	678928.0761
L13	171+78.77	2964278.2466	678928.0761		N20°32'36"E 150.38'	173+29.14	2964419.0616	678980.8461
C10	173+29.14	2964419.0616	678980.8461	R=250.00' Δ=11°12'44" L=48.92' T=24.54'		173+78.07	2964466.2561	678993.4363
L14	173+78.07	2964466.2561	678993.4363		N9°19'52"E 46.14'	174+24.21	2964511.7897	679000.9180
C11	174+24.21	2964511.7897	679000.9180	R=250.00' Δ=10°28'32" L=45.71' T=22.92'		174+69.92	2964555.9666	679012.3995
L15	174+69.92	2964555.9666	679012.3995		N19°48'24"E 84.11'	175+54.03	2964635.1049	679040.9013
C12	175+54.03	2964635.1049	679040.9013	R=500.00' Δ=5°21'48" L=46.81' T=23.42'		176+00.84	2964678.3351	679058.7974
C13	176+00.84	2964678.3351	679058.7974	R=1050.00' Δ=5°22'01" L=98.36' T=49.21'		176+99.19	2964769.1794	679096.4013
L16	176+99.19	2964769.1794	679096.4013		N19°48'11"E 225.82'	179+25.02	2964981.6477	679172.9071
L17	179+25.02	2964981.6477	679172.9071		N18°48'11"E 114.60'	180+39.61	2965090.1293	679209.8436

PR-BFRT CONSTRUCTION BASELINE DATA								
NUMBER	STARTING STATION	NORTHING	EASTING	CURVE DATA	LINE DATA	ENDING STATION	NORTHING	EASTING
L18	180+39.61	2965090.1293	679209.8436		N19°48'11"E 770.84'	188+10.45	2965815.3843	679470.9943
L19	188+10.45	2965815.3843	679470.9943		N20°48'11"E 114.60'	189+25.05	2965922.5107	679511.6942
L20	189+25.05	2965922.5107	679511.6942		N19°48'11"E 1865.81'	207+90.86	2967677.9778	680143.8049
C14	207+90.86	2967677.9778	680143.8049	R=4000.00' Δ=0°52'18" L=60.86' T=30.43'		208+51.72	2967735.3948	680163.9876
L21	208+51.72	2967735.3948	680163.9876		N18°55'52"E 139.23'	209+90.94	2967867.0895	680209.1570
C15	209+90.94	2967867.0895	680209.1570	R=4000.00' Δ=0°52'31" L=61.11' T=30.55'		210+52.05	2967924.7387	680229.4233
L22	210+52.05	2967924.7387	680229.4233		N19°48'24"E 131.71'	211+83.76	2968048.6548	680274.0518
L23	211+83.76	2968048.6548	680274.0518		N19°25'59"E 171.87'	213+55.63	2968210.7359	680331.2351
L24	213+55.63	2968210.7359	680331.2351		N19°49'56"E 542.87'	218+98.50	2968721.4097	680515.4138
L25	218+98.50	2968721.4097	680515.4138		N20°23'17"E 326.06'	222+24.57	2969027.0476	680629.0063
L26	222+24.57	2969027.0476	680629.0063		N19°45'40"E 69.86'	222+94.43	2969092.7960	680652.6268
C16	222+94.43	2969092.7960	680652.6268	R=2700.00' Δ=15°15'54" L=719.35' T=361.82'		230+13.78	2969794.0107	680803.3198
L27	230+13.78	2969794.0107	680803.3198		N4°29'46"E 1103.93'	241+17.71	2970894.5467	680889.8569
C17	241+17.71	2970894.5467	680889.8569	R=5000.00' Δ=0°58'57" L=85.74' T=42.87'		242+03.45	2970979.9609	680897.3105
L28	242+03.45	2970979.9609	680897.3105		N5°28'43"E 147.53'	243+50.99	2971126.8203	680911.3959
C18	243+50.99	2971126.8203	680911.3959	R=5000.00' Δ=0°58'57" L=85.74' T=42.87'		244+36.73	2971212.2344	680918.8496
C19	244+36.73	2971212.2344	680918.8496	R=3000.00' Δ=1°26'00" L=75.05' T=37.53'		245+59.84	2971335.0298	680927.5635
L29	245+59.84	2971335.0298	680927.5635		N3°03'45"E 72.33'	246+32.17	2971407.2593	680931.4280
C20	246+32.17	2971407.2593	680931.4280	R=4000.00' Δ=1°26'00" L=100.07' T=50.04'		247+32.24	2971507.1115	680938.0239
L30	247+32.24	2971507.1115	680938.0239		N4°29'46"E 1168.84'	259+01.08	2972672.3571	681029.6492
C21	259+01.08	2972672.3571	681029.6492	R=2700.00' Δ=11°56'05" L=562.41' T=282.23'		264+63.49	2973224.4142	681131.6018
L31	264+63.49	2973224.4142	681131.6018		N16°25'51"E 868.04'	273+31.53	2974057.0028	681377.1308
C22	273+31.53	2974057.0028	681377.1308	R=600.00' Δ=11°24'39" L=119.49' T=59.94'		274+51.02	2974167.5053	681422.0822
C23	274+51.02	2974167.5053	681422.0822	R=75.00' Δ=30°13'13" L=39.56' T=20.25'		274+90.58	2974205.6454	681430.6994
L32	274+90.58	2974205.6454	681430.6994		N2°22'44"W 21.75'	275+12.33	2974227.3744	681429.7966
C24	275+12.33	2974227.3744	681429.7966	R=75.23' Δ=23°21'17" L=30.66' T=15.55'		275+42.99	2974257.4273	681434.7172
L33	275+42.99	2974257.4273	681434.7172		N20°58'33"E 62.10'	276+05.09	2974315.4077	681456.9457
C25	276+05.09	2974315.4077	681456.9457	R=250.00' Δ=10°15'47" L=44.78' T=22.45'		276+49.87	2974355.5662	681476.6256
C26	276+49.87	2974355.5662	681476.6256	R=250.00' Δ=10°15'47" L=44.78' T=22.45'		276+94.65	2974395.7247	681496.3054
L34	276+94.65	2974395.7247	681496.3054		N20°58'33"E 621.40'	283+16.05	2974975.9408	681718.7489

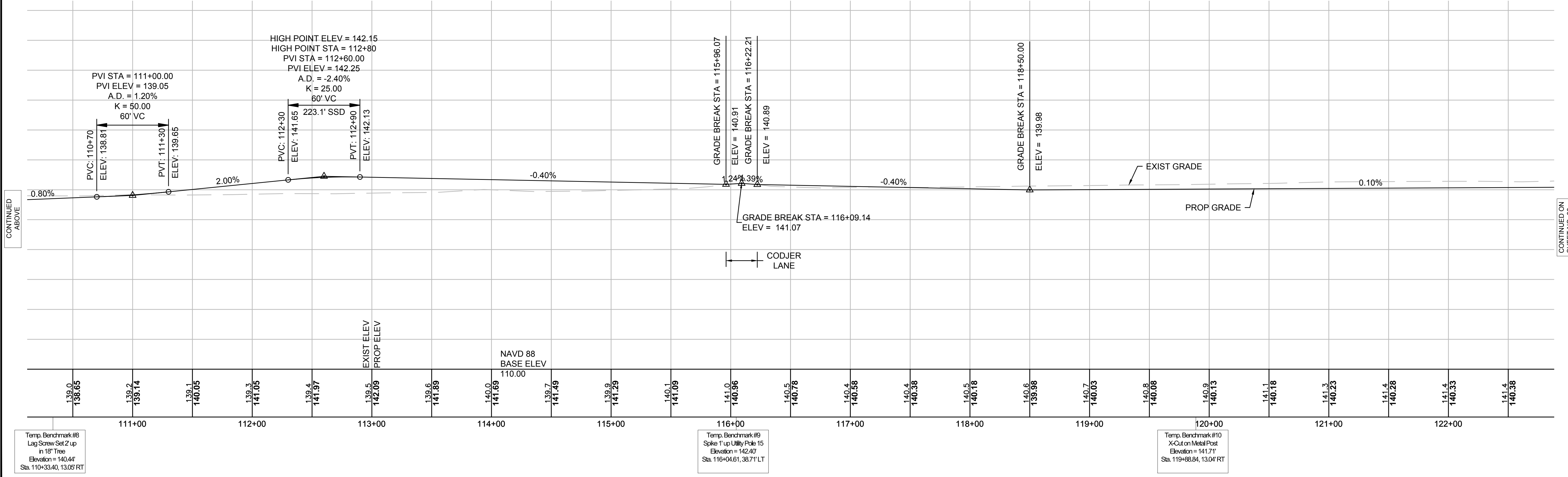
PR-BFRT CONSTRUCTION BASELINE DATA								
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C27	283+16.05	2974975.9408	681718.7489	R = 500.00' Δ= 7°45'30" L=67.70' T=33.90'		283+83.75	2975040.6029	681738.6375
L35	283+83.75	2975040.6029	681738.6375		N13°13'03"E 30.28'	284+14.03	2975070.0834	681745.5616
C28	284+14.03	2975070.0834	681745.5616	R = 30.00' Δ= 41°44'55" L=21.86' T=11.44'		284+35.89	2975087.7884	681757.5452
L36	284+35.89	2975087.7884	681757.5452		N54°57'59"E 24.19'	284+60.09	2975101.6773	681777.3558
C29	284+60.09	2975101.6773	681777.3558	R = 30.00' Δ= 44°19'57" L=23.21' T=12.22'		284+83.30	2975120.7058	681789.6189
L37	284+83.30	2975120.7058	681789.6189		N10°38'02"E 40.32'	285+23.62	2975160.3357	681797.0596
C30	285+23.62	2975160.3357	681797.0596	R = 250.00' Δ= 10°21'50" L=45.22' T=22.67'		285+68.84	2975203.7853	681809.3675
L38	285+68.84	2975203.7853	681809.3675		N20°59'52"E 516.76'	290+85.60	2975686.2302	681994.5380
L39	290+85.60	2975686.2302	681994.5380		N21°59'52"E 114.40'	292+00.00	2975792.3004	682037.3880
L40	292+00.00	2975792.3004	682037.3880		N20°59'53"E 507.83'	297+07.83	2976266.4051	682219.3611
C31	297+07.83	2976266.4051	682219.3611	R = 5730.00' Δ= 8°52'40" L=887.84' T=444.81'		305+95.67	2977067.3765	682600.3229
C32	305+95.67	2977067.3765	682600.3229	R = 500.00' Δ= 12°54'08" L=112.59' T=56.54'		307+08.26	2977157.8952	682666.8809
C33	307+08.26	2977157.8952	682666.8809	R = 100.00' Δ= 25°44'59" L=44.94' T=22.86'		307+53.20	2977196.5269	682689.0978
L41	307+53.20	2977196.5269	682689.0978		N17°01'41"E 22.50'	307+75.71	2977218.0413	682695.6870
C34	307+75.71	2977218.0413	682695.6870	R = 150.00' Δ= 15°24'02" L=40.32' T=20.28'		308+16.02	2977254.5527	682712.5024
L42	308+16.02	2977254.5527	682712.5024		N32°25'44"E 1901.85'	327+17.87	2978859.8261	683732.3720
C35	327+17.87	2978859.8261	683732.3720	R = 5730.00' Δ= 3°03'32" L=305.92' T=153.00'		330+23.79	2979122.2959	683889.4527
L43	330+23.79	2979122.2959	683889.4527		N29°22'11"E 576.21'	336+00.00	2979624.4429	684172.0497

SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	37	123
PROJECT FILE NO.		608164	

PROFILES

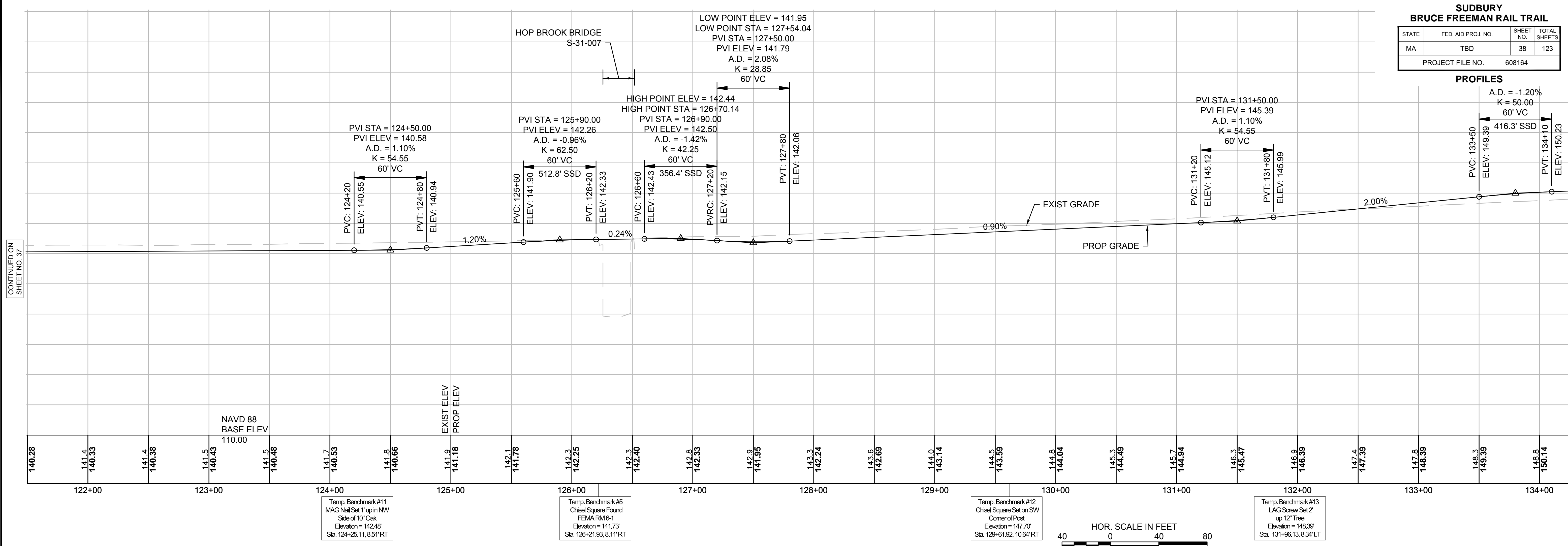


FOR CONSTRUCTION PLANS SEE SHEET NO. 08, 09 & 10

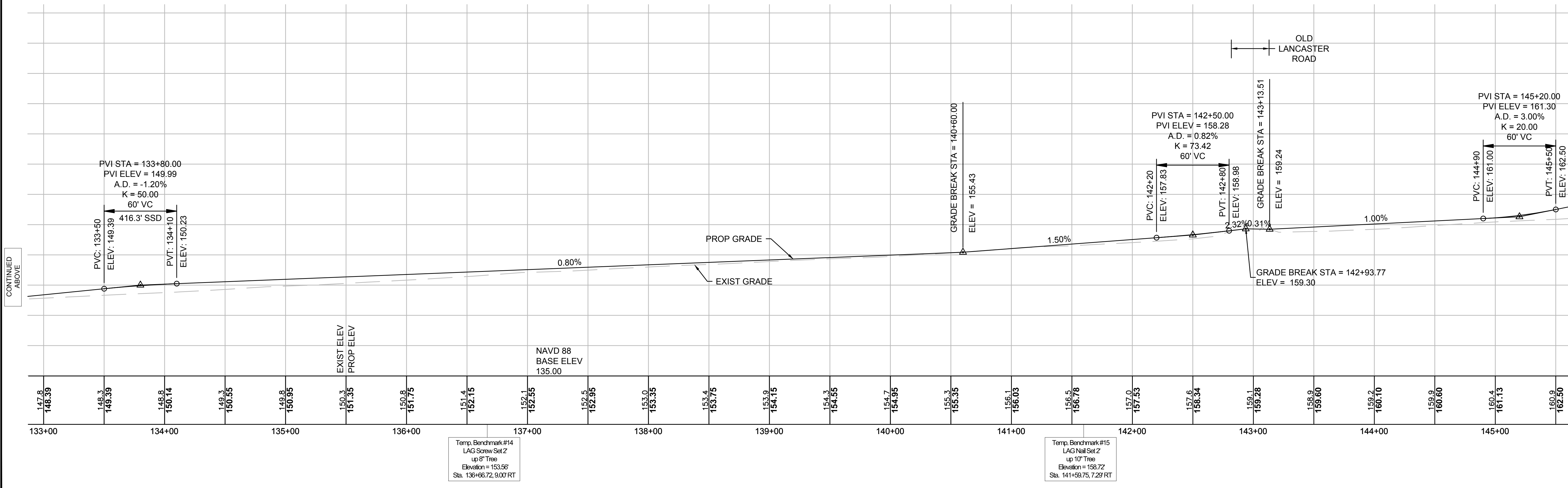
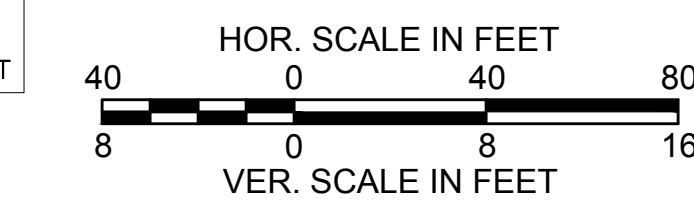


SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	38	123
PROJECT FILE NO.		608164	

PROFILES



FOR CONSTRUCTION PLANS SEE SHEET NO. 10, 11 & 12



CONTINUED ON
SHEET NO. 37

CONTINUED
BELOW

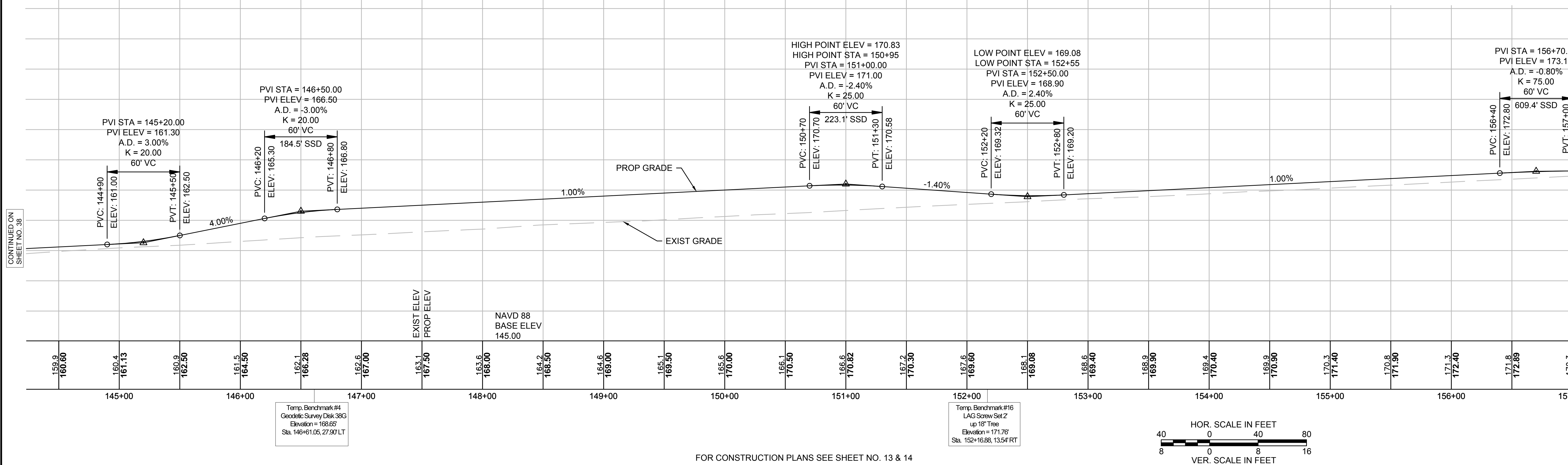
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ABOVE

CONTINUED ON
SHEET NO. 39

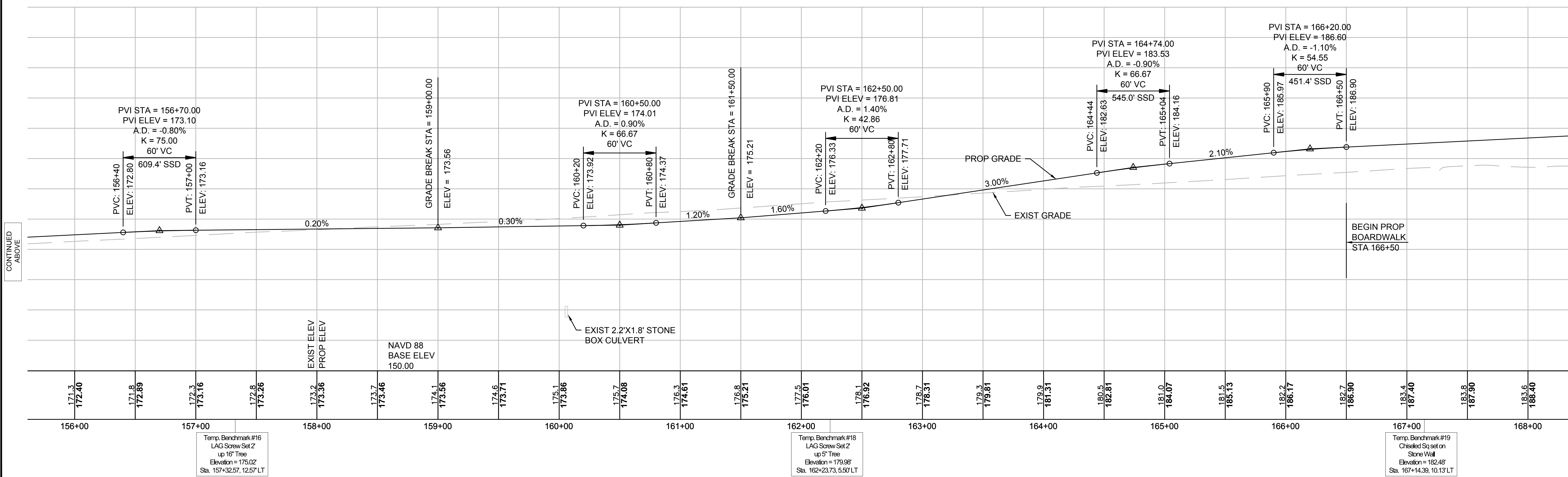
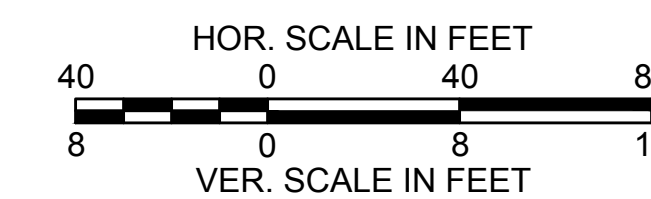
**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	39	123
PROJECT FILE NO.		608164	

PROFILES



FOR CONSTRUCTION PLANS SEE SHEET NO. 13 & 14

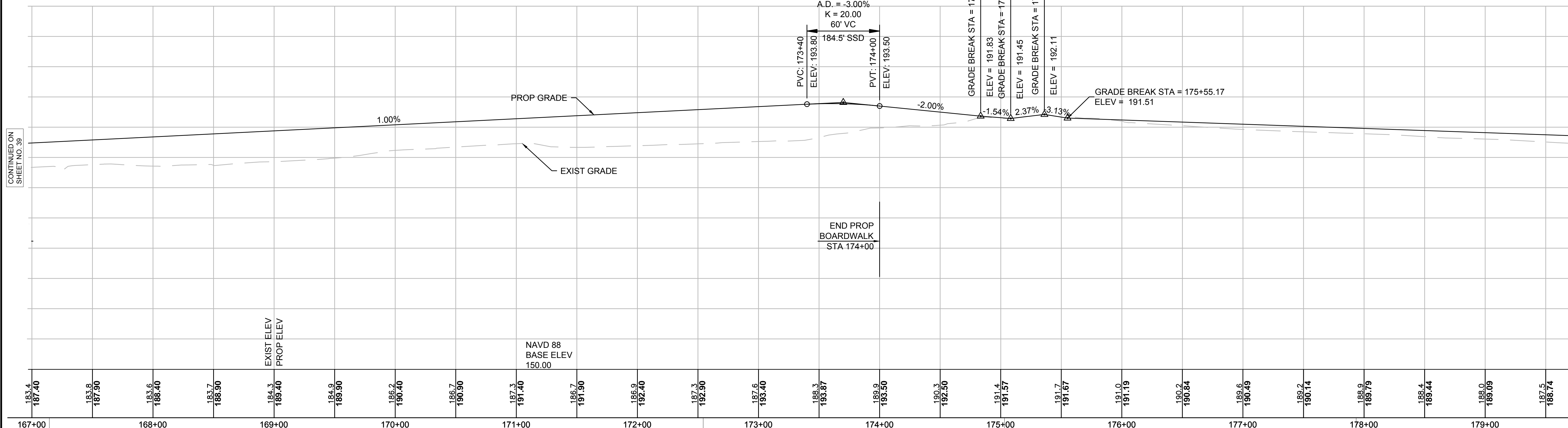


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CONTINUED ON SHEET NO. 40



Station	Prop. Elev.	Exist. Elev.
167+00	187.40	187.40
168+00	188.40	188.40
169+00	189.40	189.40
170+00	190.40	189.90
171+00	191.40	191.40
172+00	192.40	192.40
173+00	193.40	193.40
174+00	193.50	193.50
175+00	191.57	191.57
176+00	191.67	191.67
177+00	190.49	190.49
178+00	189.79	189.79
179+00	188.74	188.74

Temp. Benchmark #19: Chiseled Sq set on Stone Wall, Elevation = 182.48', Sta. 167+14.39, 10.13' LT

Temp. Benchmark #20: Chiseled Sq set on Boulder, Elevation = 190.04', Sta. 172+54.34, 24.71' LT

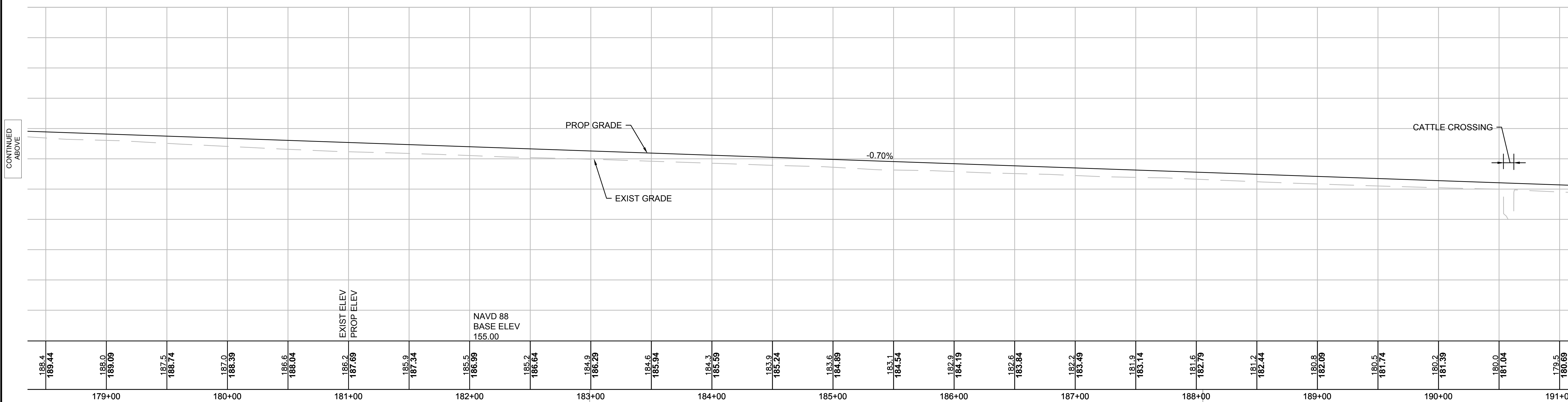
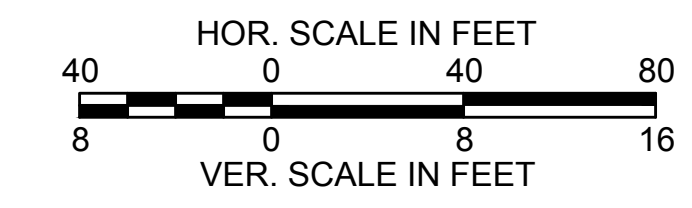
Temp. Benchmark #22: LAG Screw set 2' up 9" Tree, Elevation = 190.30', Sta. 182+99.09, 11.95' LT

Temp. Benchmark #21: LAG Screw set 2' up 10" Tree, Elevation = 190.30', Sta. 177+93.51, 10.98' RT

Temp. Benchmark #24: Fire Hydrant's Main Outlet, Elevation = 191.27', Sta. 175+03.09, 35.32' RT

Temp. Benchmark #23: LAG Screw set 2' up 5" Pine, Elevation = 183.80', Sta. 188+05.41, 2.53' LT

FOR CONSTRUCTION PLANS SEE SHEET NO. 14, 15, 16 & 17



Station	Prop. Elev.	Exist. Elev.
179+00	189.44	189.44
180+00	188.39	188.39
181+00	187.69	187.69
182+00	186.64	186.64
183+00	185.59	185.59
184+00	184.54	184.54
185+00	183.49	183.49
186+00	182.44	182.44
187+00	181.39	181.39
188+00	180.34	180.34
189+00	179.29	179.29
190+00	178.24	178.24
191+00	177.19	177.19

Temp. Benchmark #22: LAG Screw set 2' up 9" Tree, Elevation = 190.30', Sta. 182+99.09, 11.95' LT

Temp. Benchmark #23: LAG Screw set 2' up 5" Pine, Elevation = 183.80', Sta. 188+05.41, 2.53' LT

CONTINUED ON SHEET NO. 39

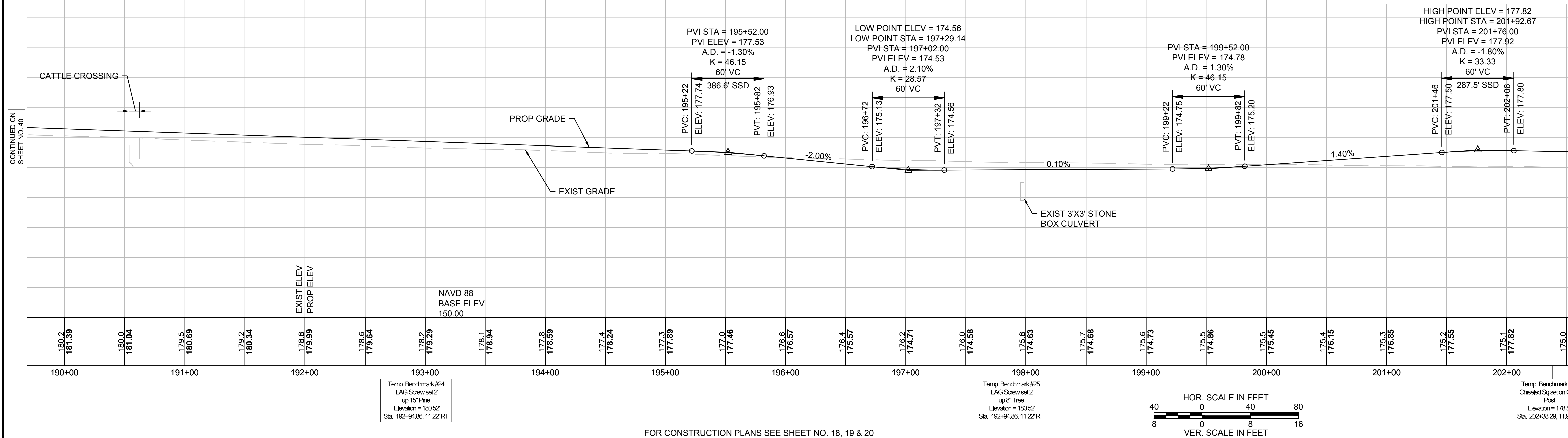
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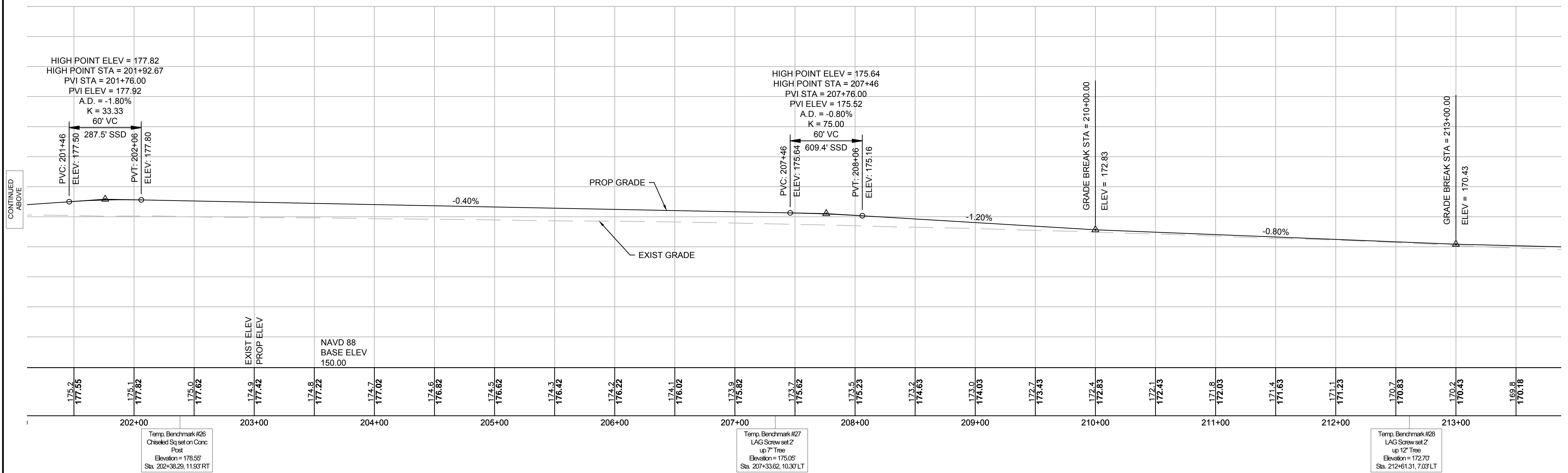
CONTINUED ON SHEET NO. 41

SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	41	123
PROJECT FILE NO.		608164	

PROFILES

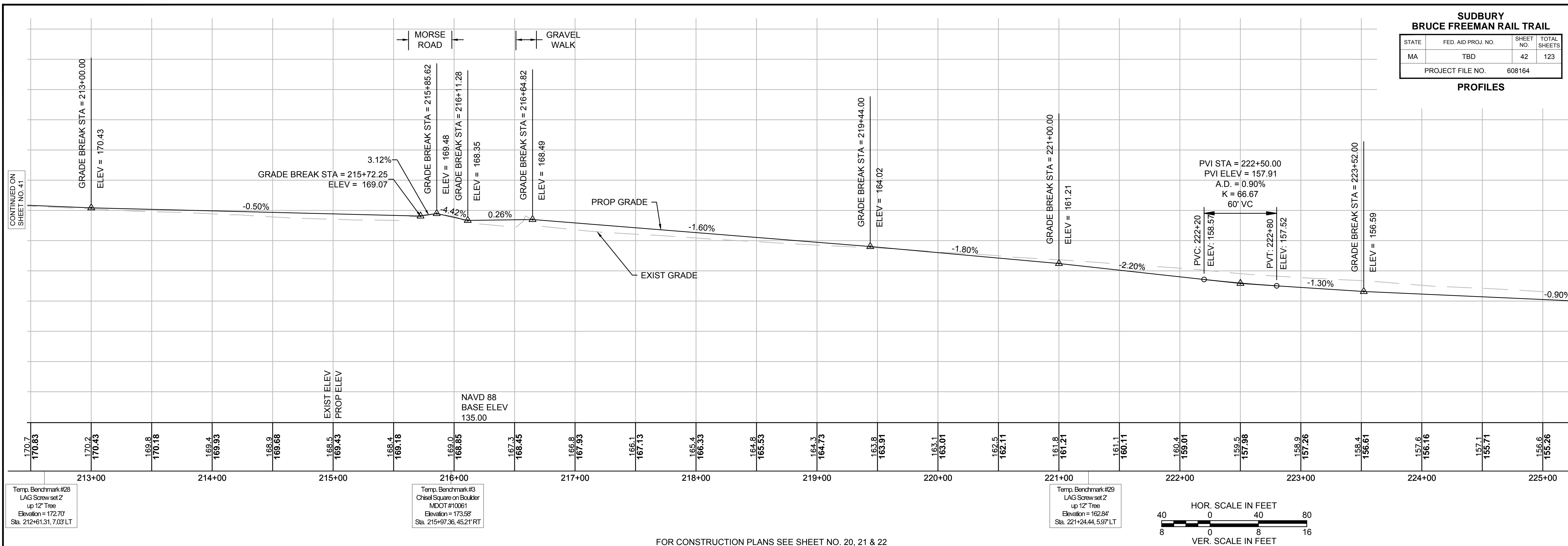


FOR CONSTRUCTION PLANS SEE SHEET NO. 18, 19 & 20

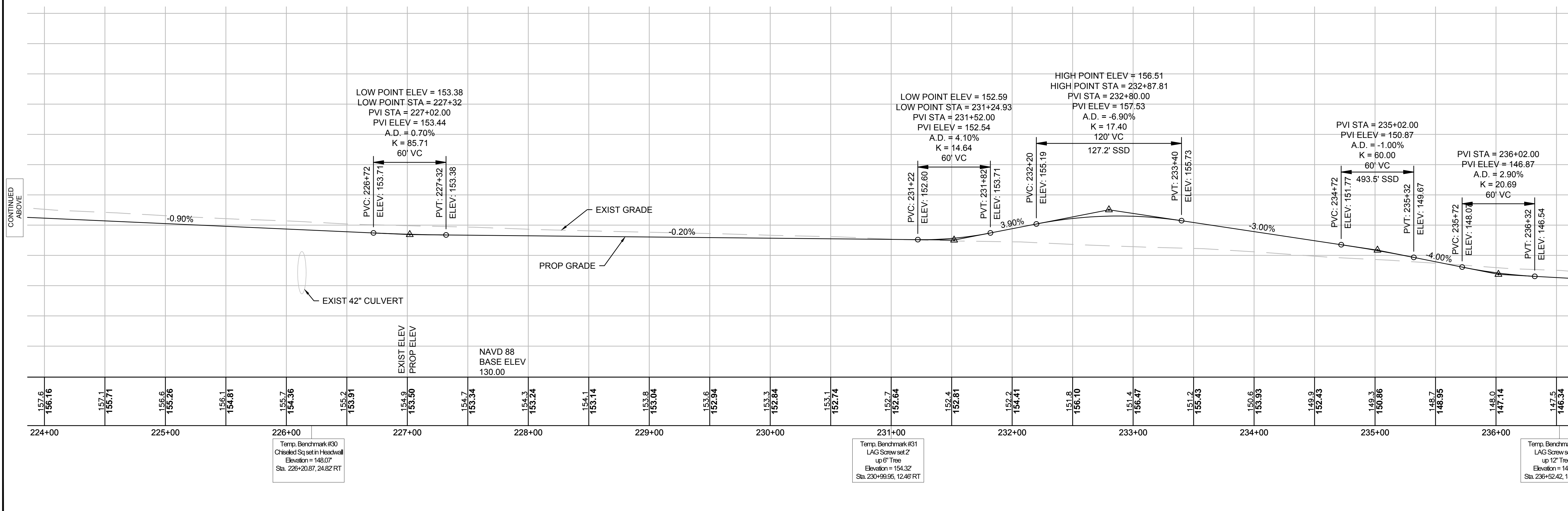


SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	42	123
PROJECT FILE NO.		608164	

PROFILES



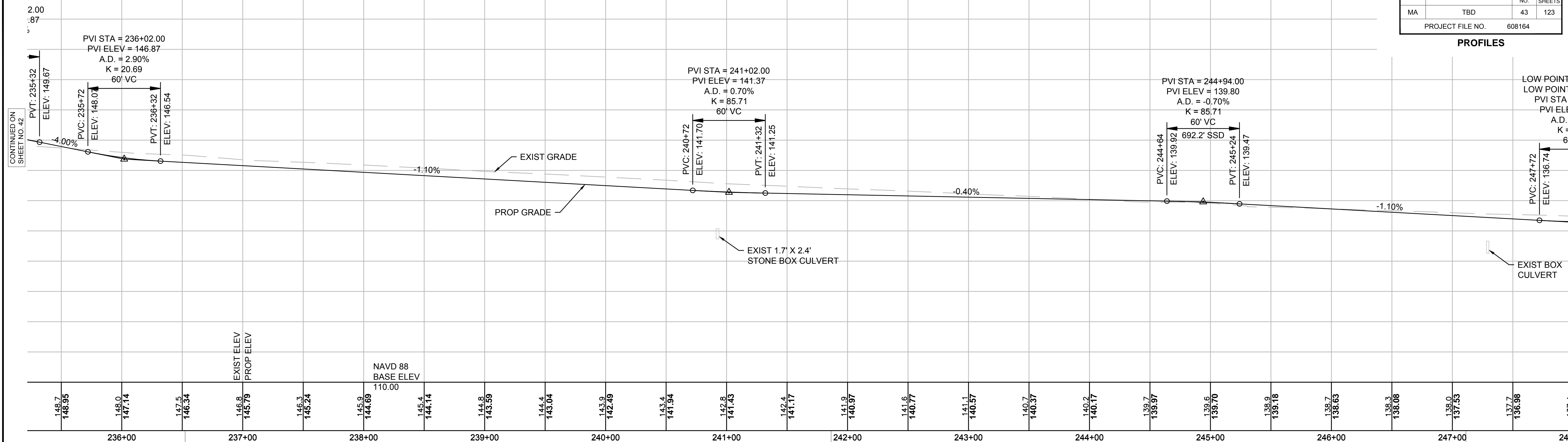
FOR CONSTRUCTION PLANS SEE SHEET NO. 20, 21 & 22



**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	43	123
PROJECT FILE NO.		608164	

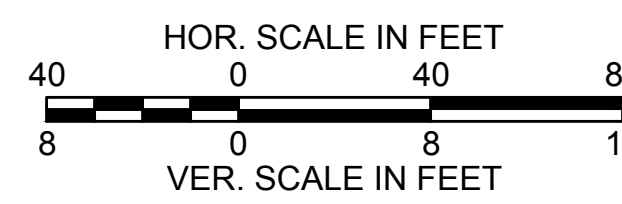
PROFILES



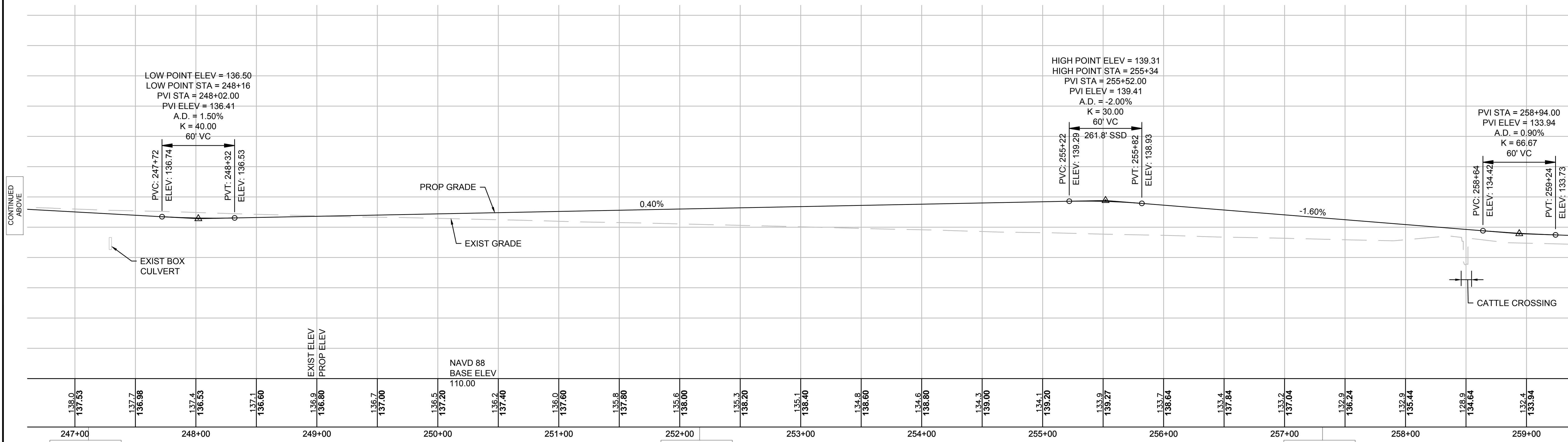
Temp. Benchmark #32
LAG Screw set 2
up 12" Tree
Elevation = 146.69'
Sta. 236+52.42, 14.66' RT

Temp. Benchmark #33
LAG Screw set 2
up 15" Tree
Elevation = 143.77'
Sta. 241+86.42, 8.50' RT

Temp. Benchmark #34
LAG Screw set 2
up 6" Tree
Elevation = 138.92'
Sta. 247+11.25, 9.50' LT



FOR CONSTRUCTION PLANS SEE SHEET NO. 22, 23 & 24



Temp. Benchmark #34
LAG Screw set 2
up 6" Tree
Elevation = 138.92'
Sta. 247+11.25, 9.50' LT

Temp. Benchmark #35
LAG Screw set 2
up 13" Tree
Elevation = 139.00'
Sta. 252+16.43, 14.99' RT

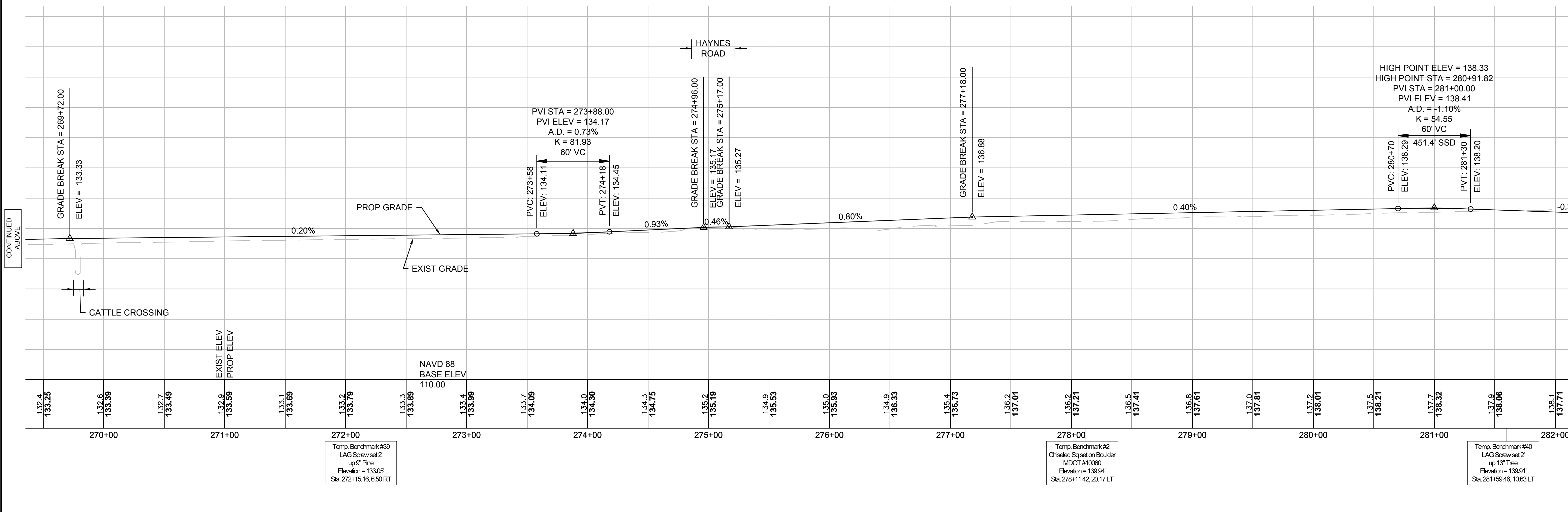
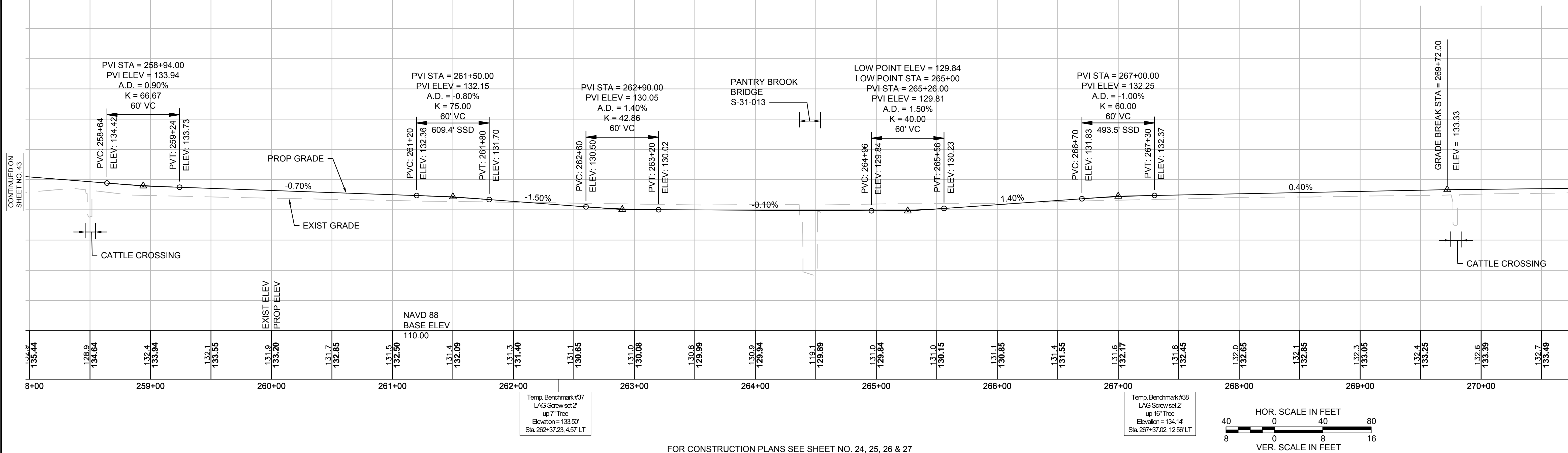
Temp. Benchmark #36
LAG Screw set 2
up 6" Tree
Elevation = 134.86'
Sta. 257+31.41, 10.76' LT

CONTINUED ON SHEET NO. 42

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CONTINUED ON SHEET NO. 44



CONTINUED ON
SHEET NO. 43

CONTINUED
BELOW

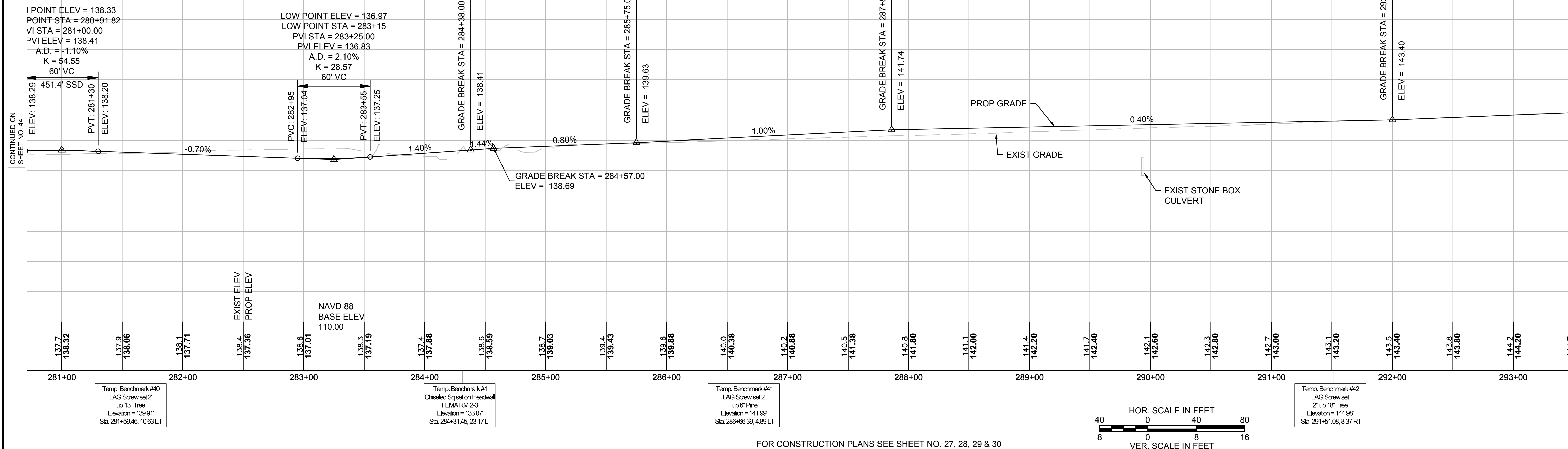
CONTINUED
ABOVE

CONTINUED ON
SHEET NO. 45

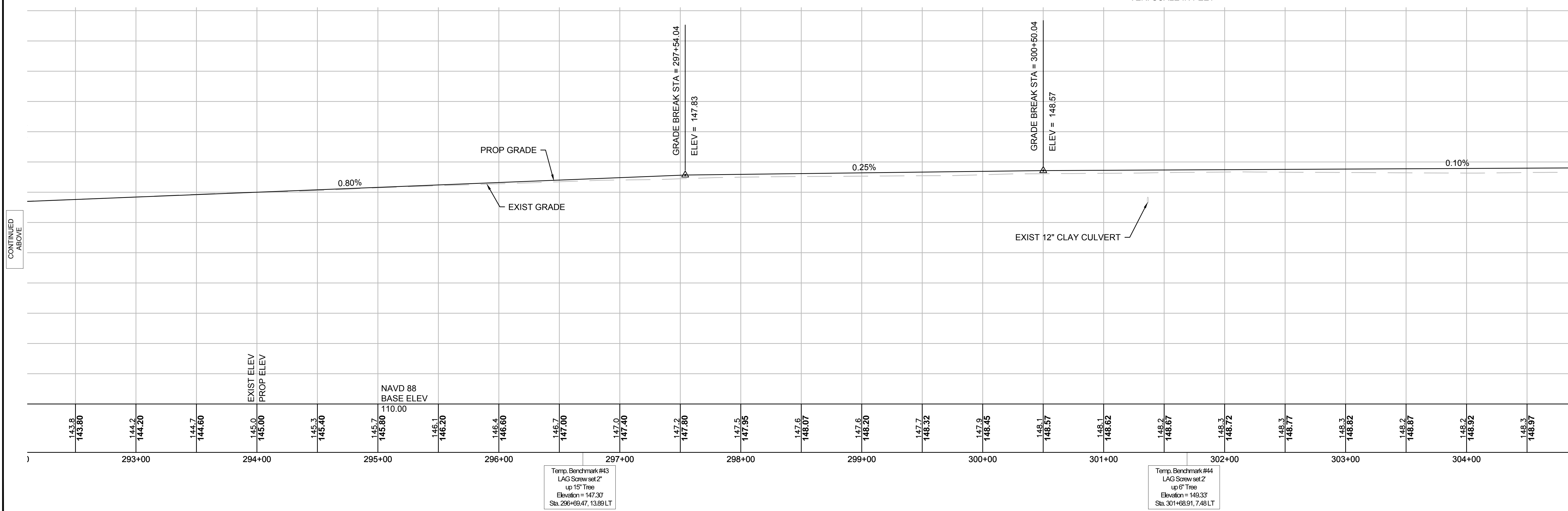
**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	45	123
PROJECT FILE NO.		608164	

PROFILES



FOR CONSTRUCTION PLANS SEE SHEET NO. 27, 28, 29 & 30



CONTINUED ON SHEET NO. 44

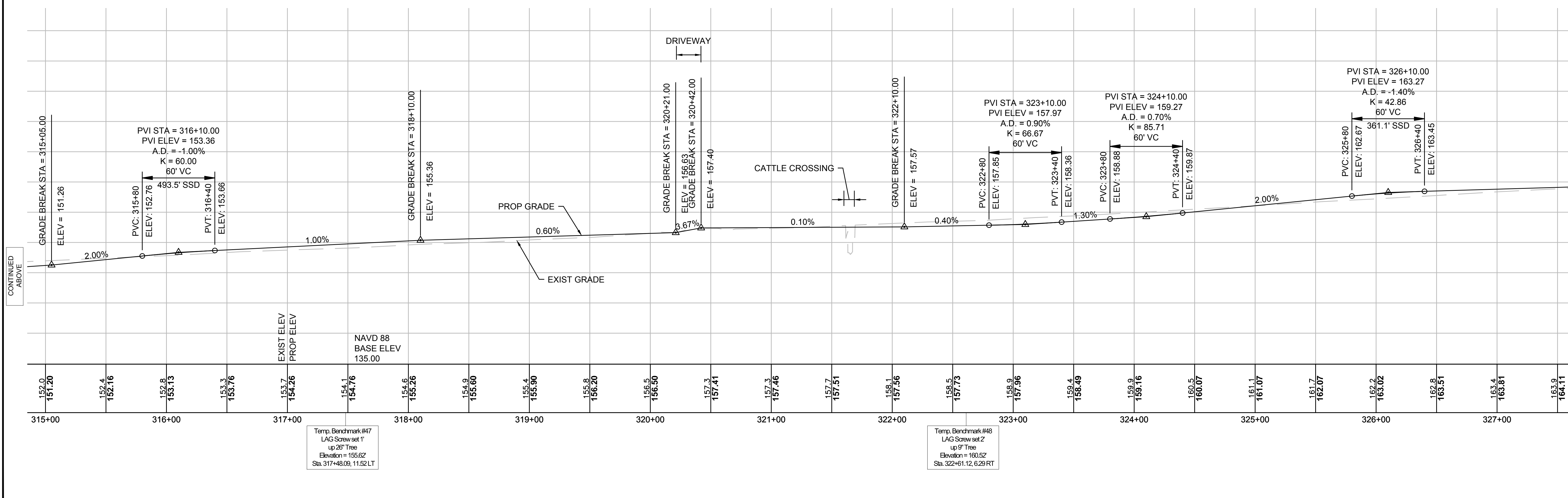
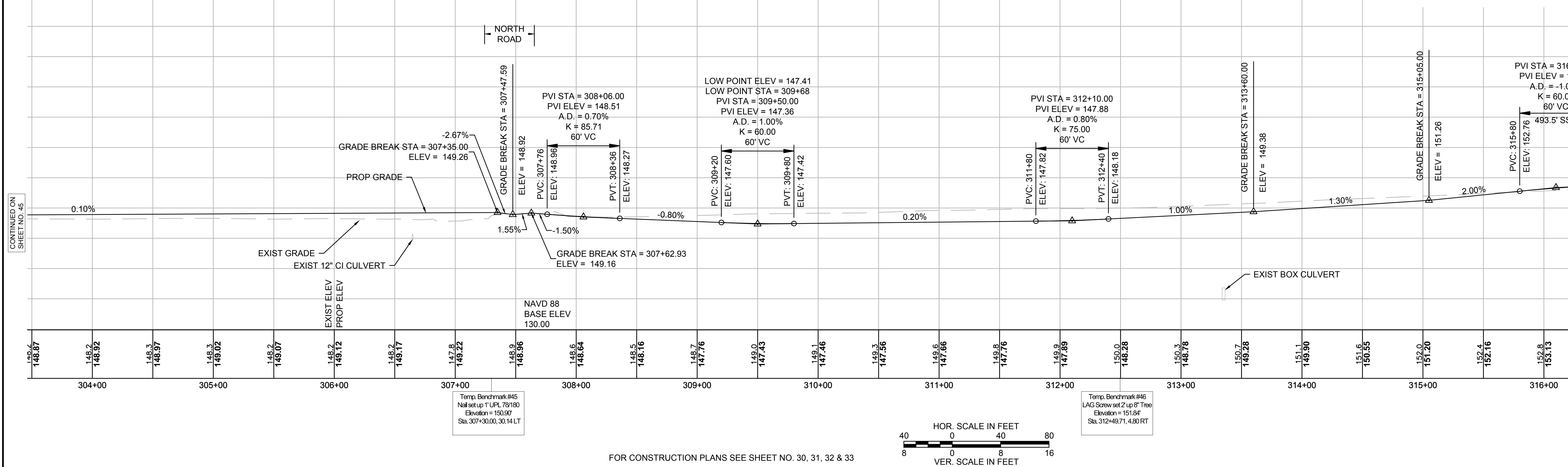
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CONTINUED ON SHEET NO. 46

SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	46	123
PROJECT FILE NO.		608164	

PROFILES



CONTINUED ON SHEET NO. 45

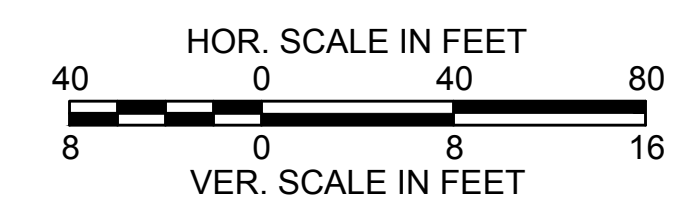
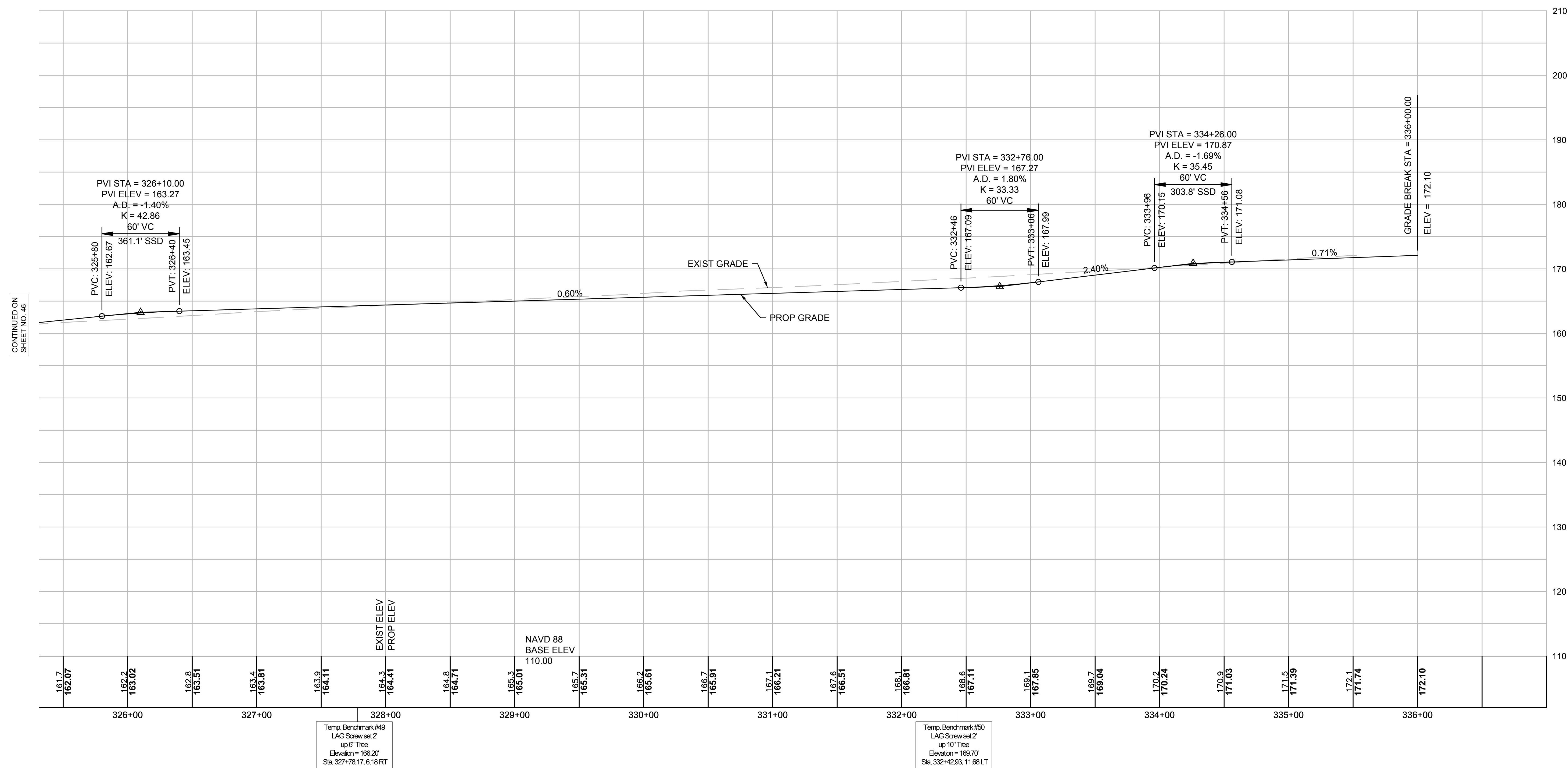
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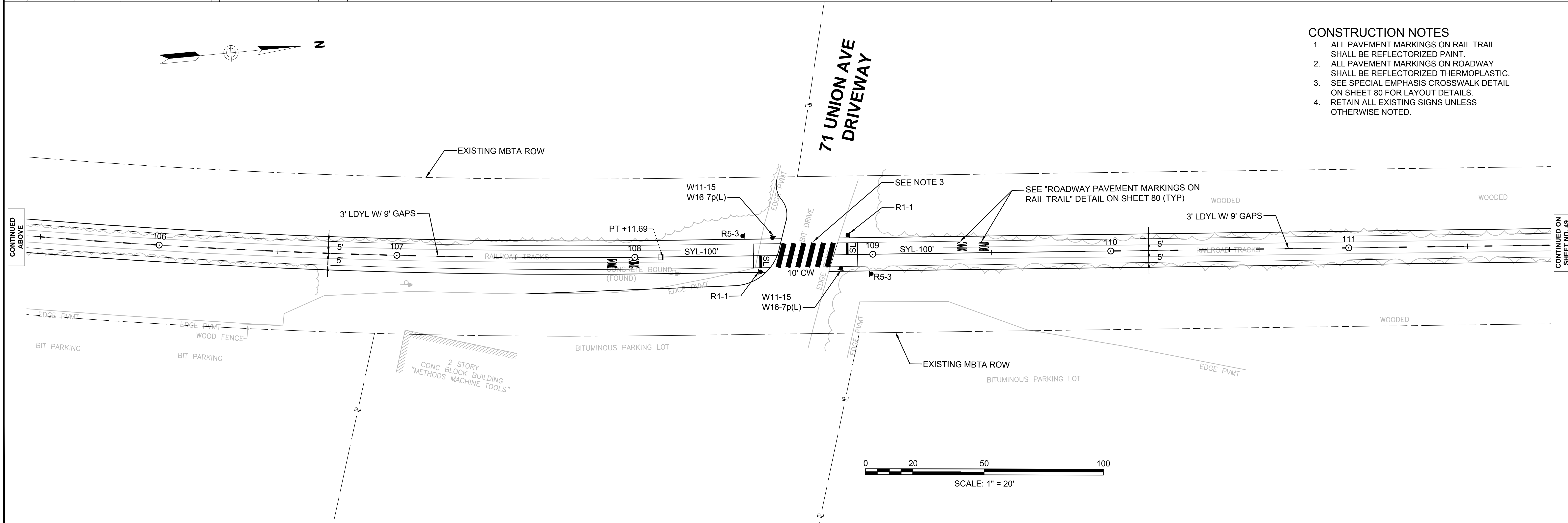
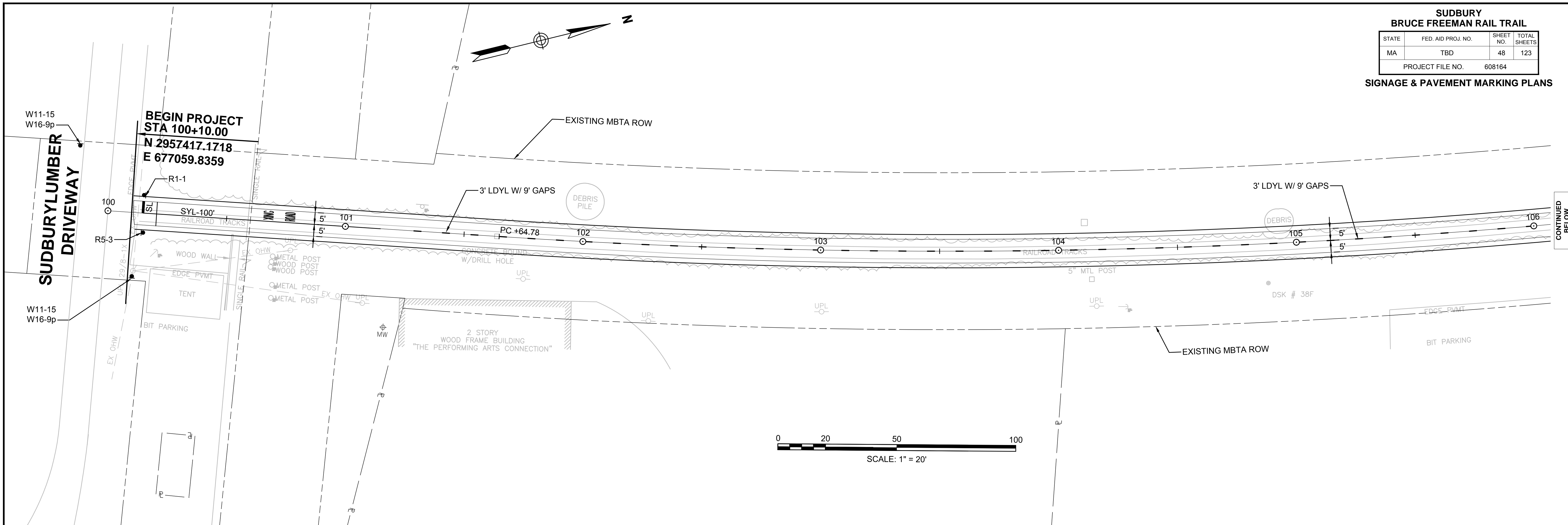
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SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	47	123
PROJECT FILE NO.		608164	

PROFILES



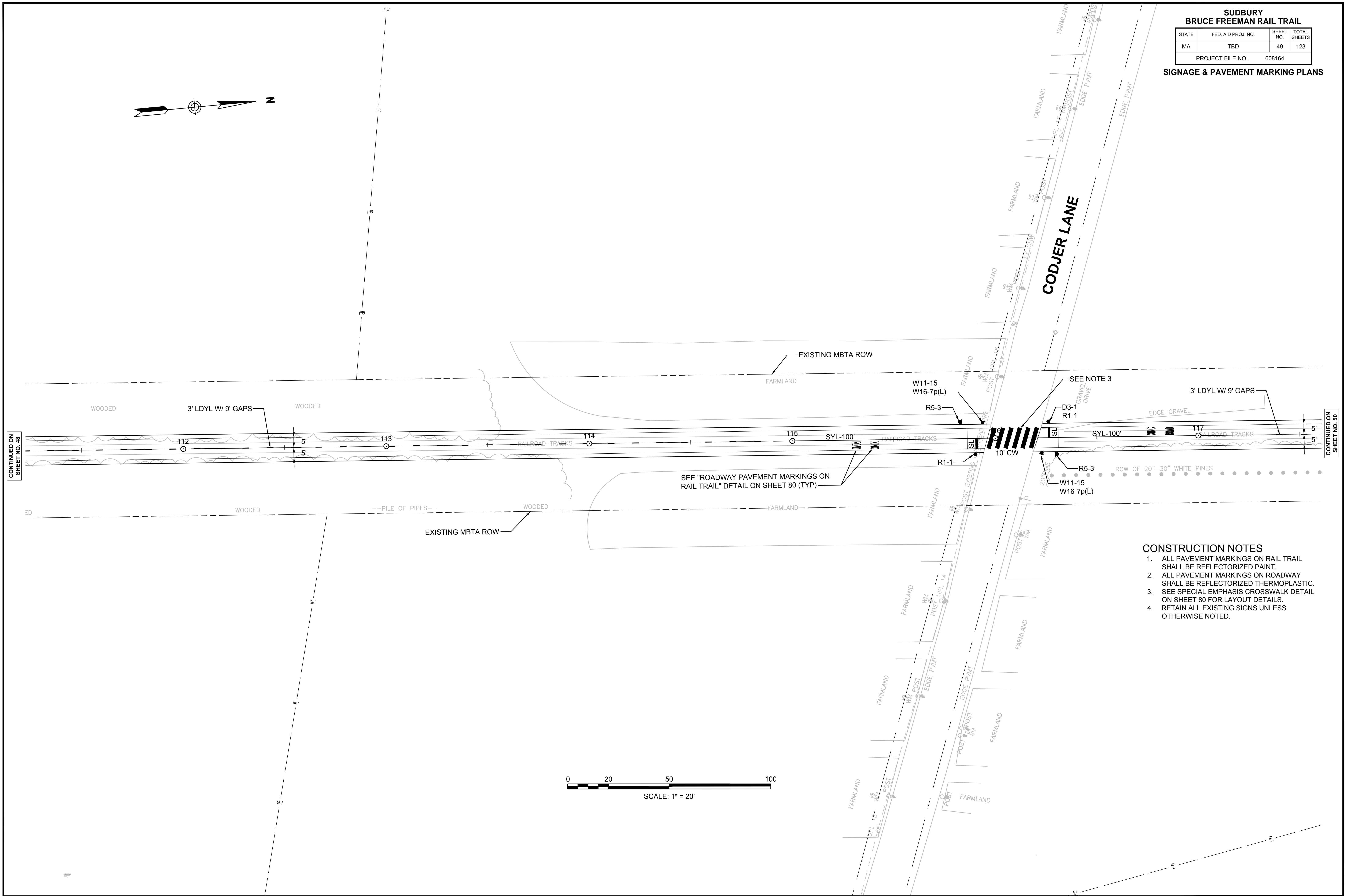
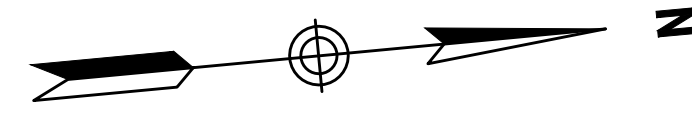
FOR CONSTRUCTION PLANS SEE SHEET NO. 33 & 34



- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

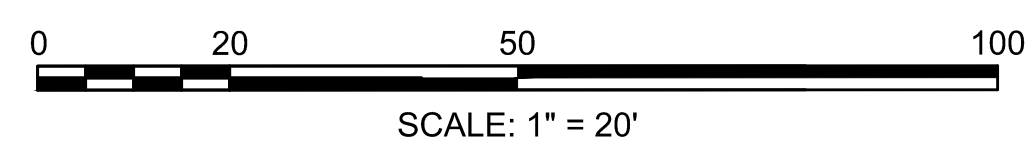
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CONTINUED ON SHEET NO. 49



CONTINUED ON SHEET NO. 48

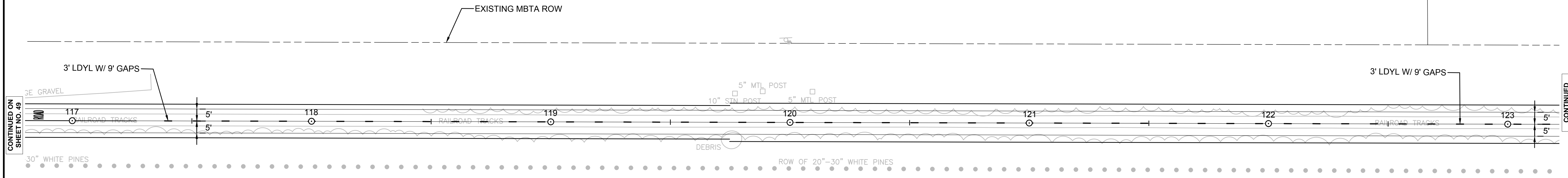
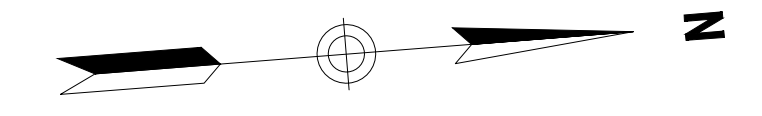
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- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

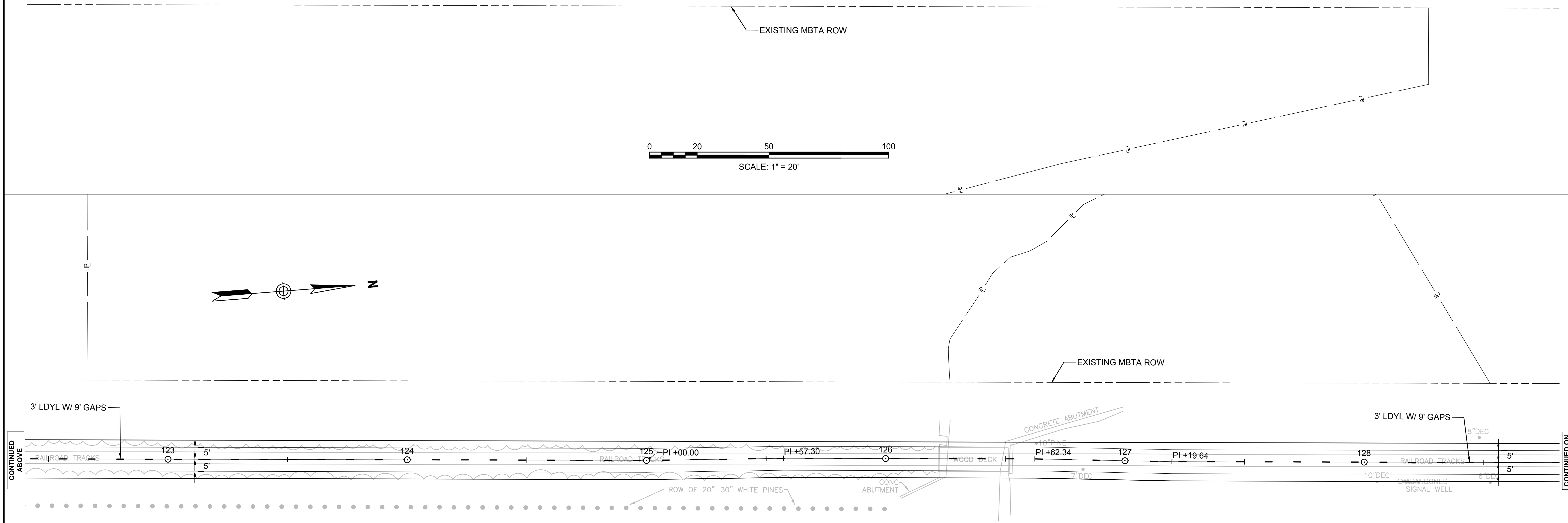
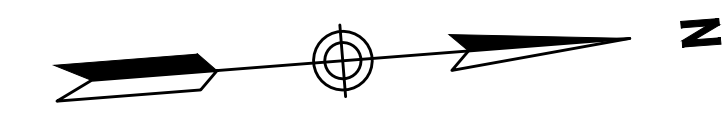
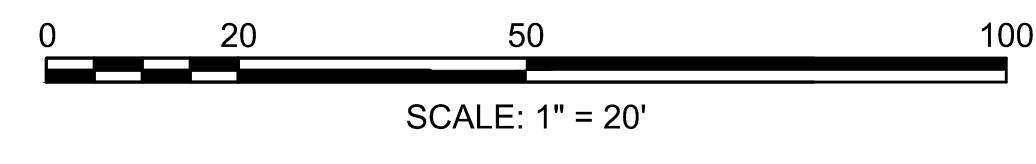
CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



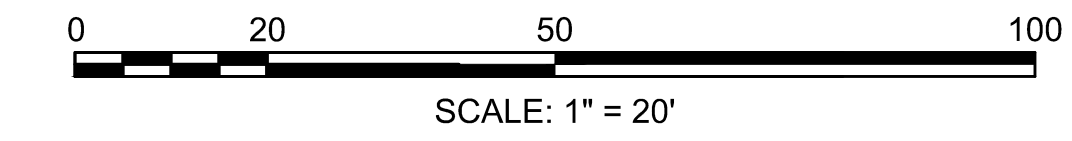
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CONTINUED ON SHEET NO. 51

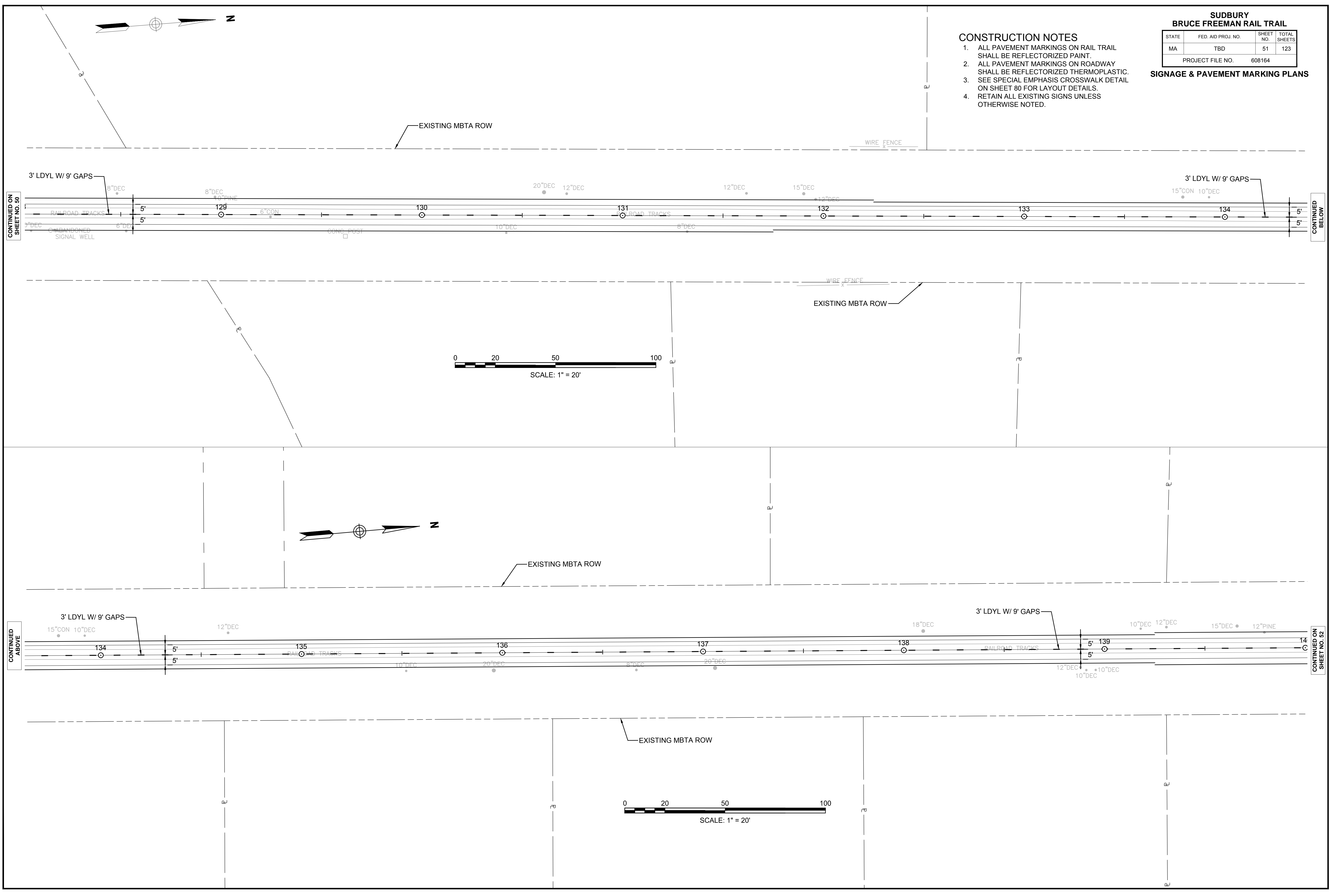


**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	51	123
PROJECT FILE NO.		608164	

SIGNAGE & PAVEMENT MARKING PLANS

- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON SHEET NO. 50

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CONTINUED ON SHEET NO. 52

GERRY DRIVE

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

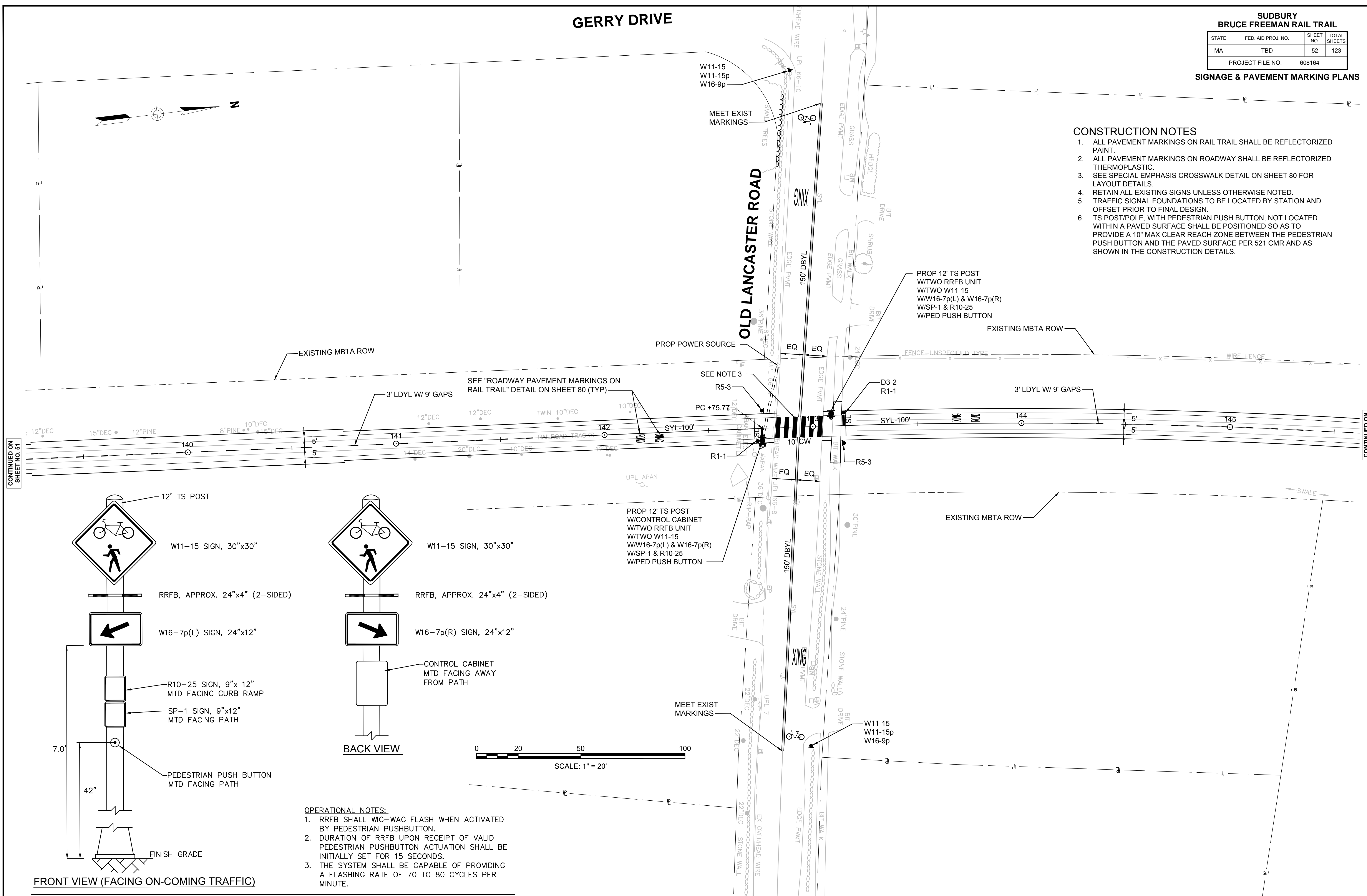
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	52	123

PROJECT FILE NO. 608164

SIGNAGE & PAVEMENT MARKING PLANS

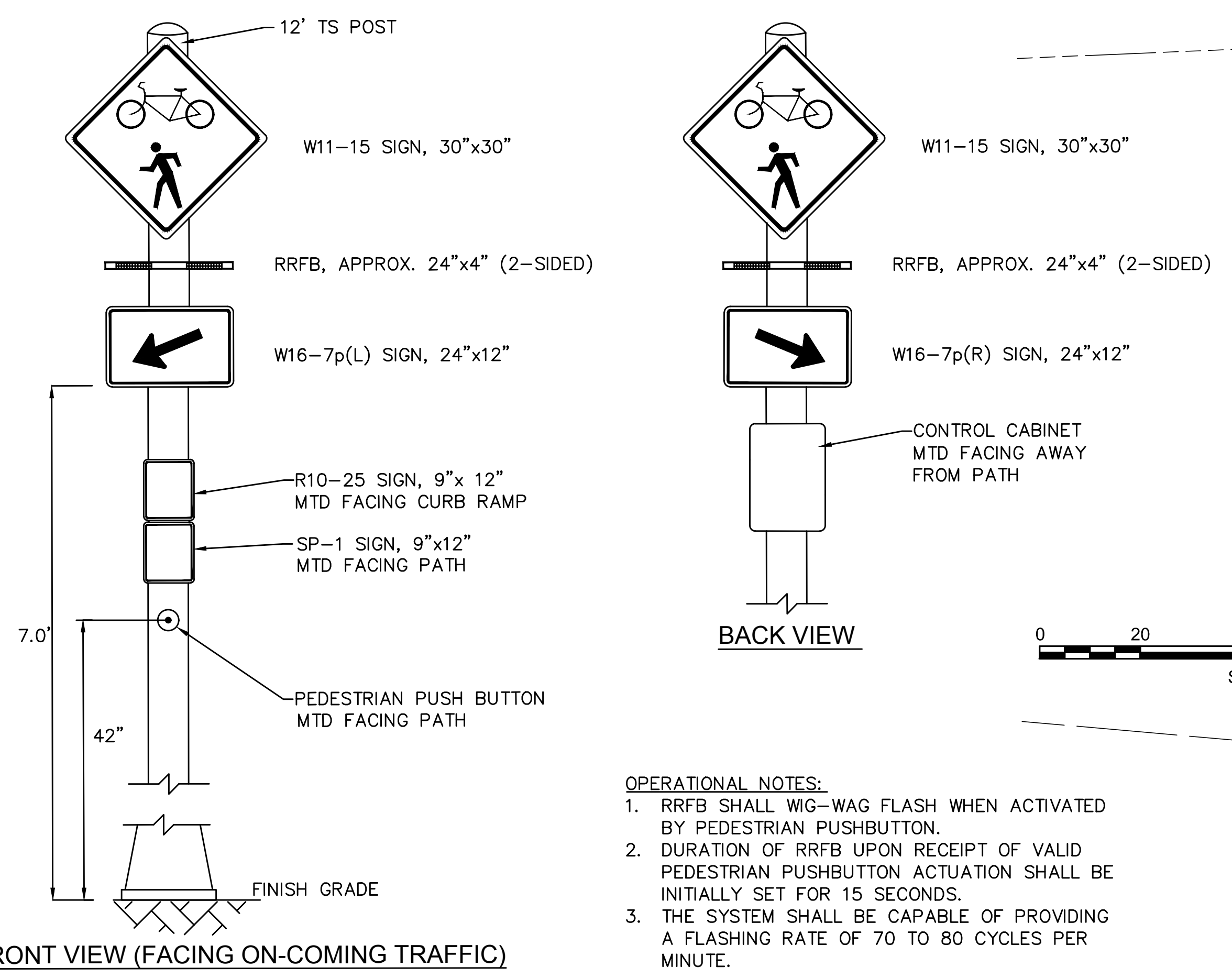
CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
5. TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET PRIOR TO FINAL DESIGN.
6. TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.



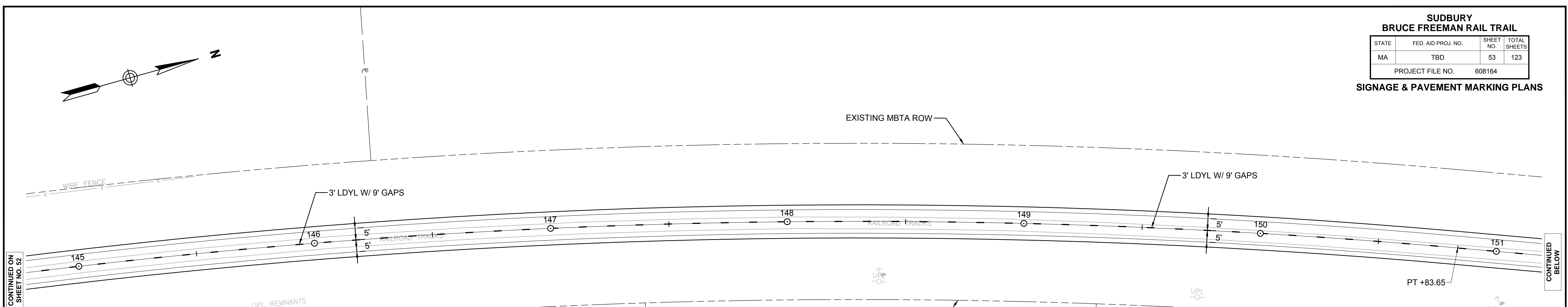
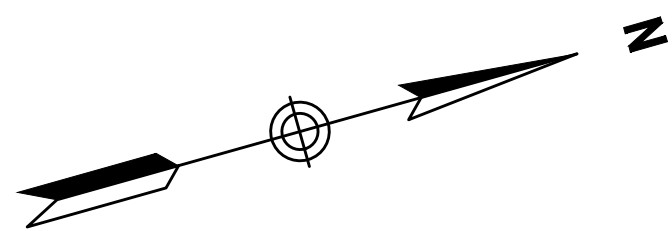
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CONTINUED ON SHEET NO. 53

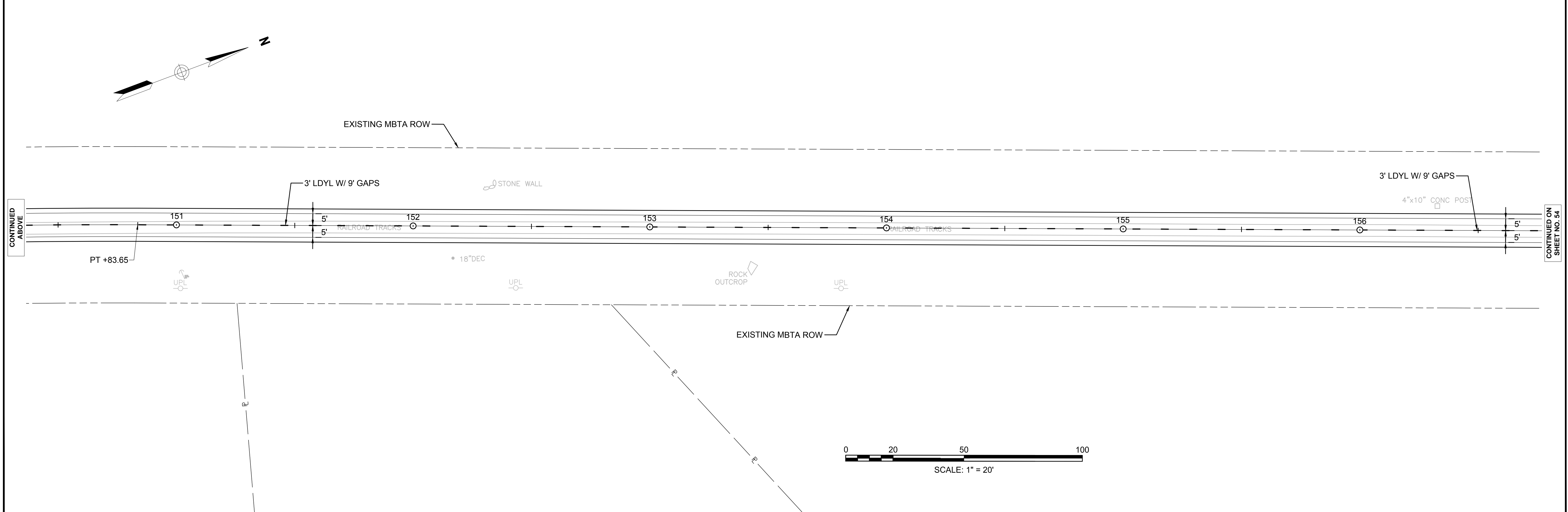
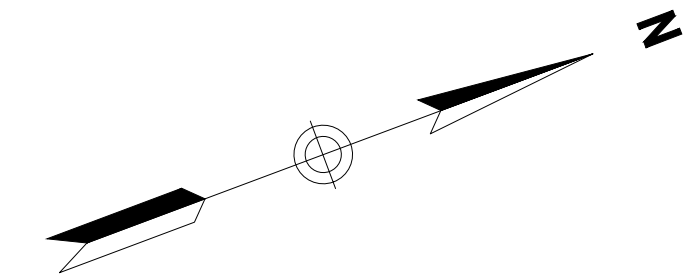
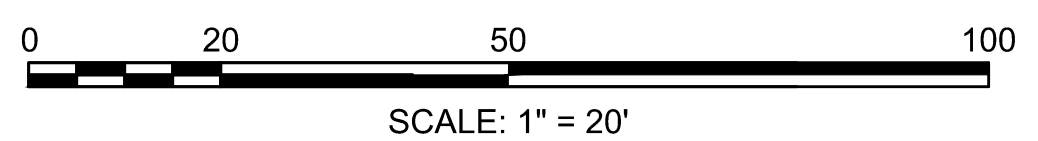


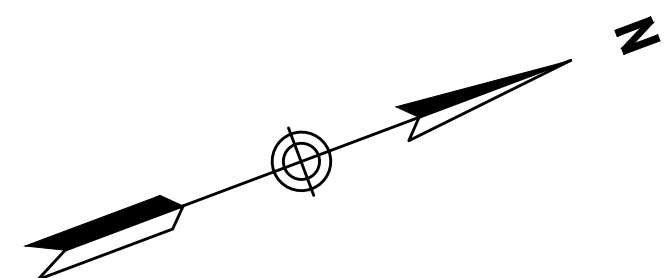
- OPERATIONAL NOTES:**
1. RRFB SHALL WIG-WAG FLASH WHEN ACTIVATED BY PEDESTRIAN PUSHBUTTON.
 2. DURATION OF RRFB UPON RECEIPT OF VALID PEDESTRIAN PUSHBUTTON ACTUATION SHALL BE INITIALLY SET FOR 15 SECONDS.
 3. THE SYSTEM SHALL BE CAPABLE OF PROVIDING A FLASHING RATE OF 70 TO 80 CYCLES PER MINUTE.

RECTANGULAR RAPID FLASHING BEACON (RRFB) - POST MOUNTED
SCALE: N.T.S.



- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



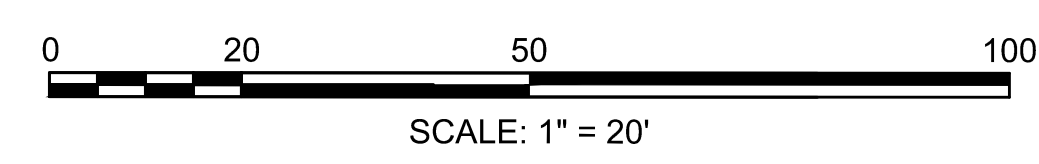
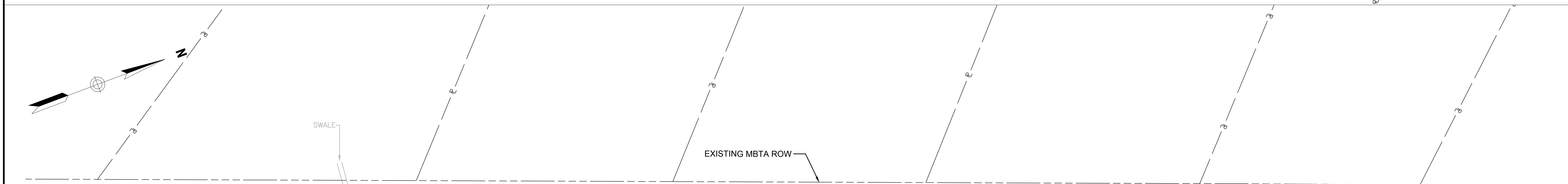
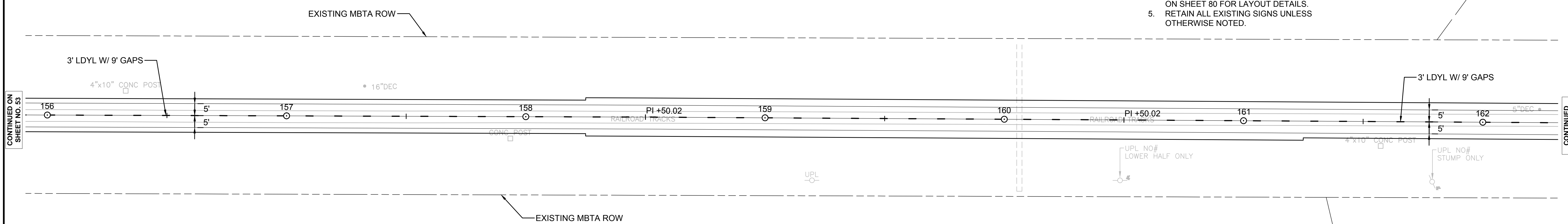


**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	54	123
PROJECT FILE NO.		608164	

SIGNAGE & PAVEMENT MARKING PLANS

- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. PAVEMENT MARKINGS SHALL NOT BE APPLIED ON THE BOARDWALK.
 3. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 4. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 5. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



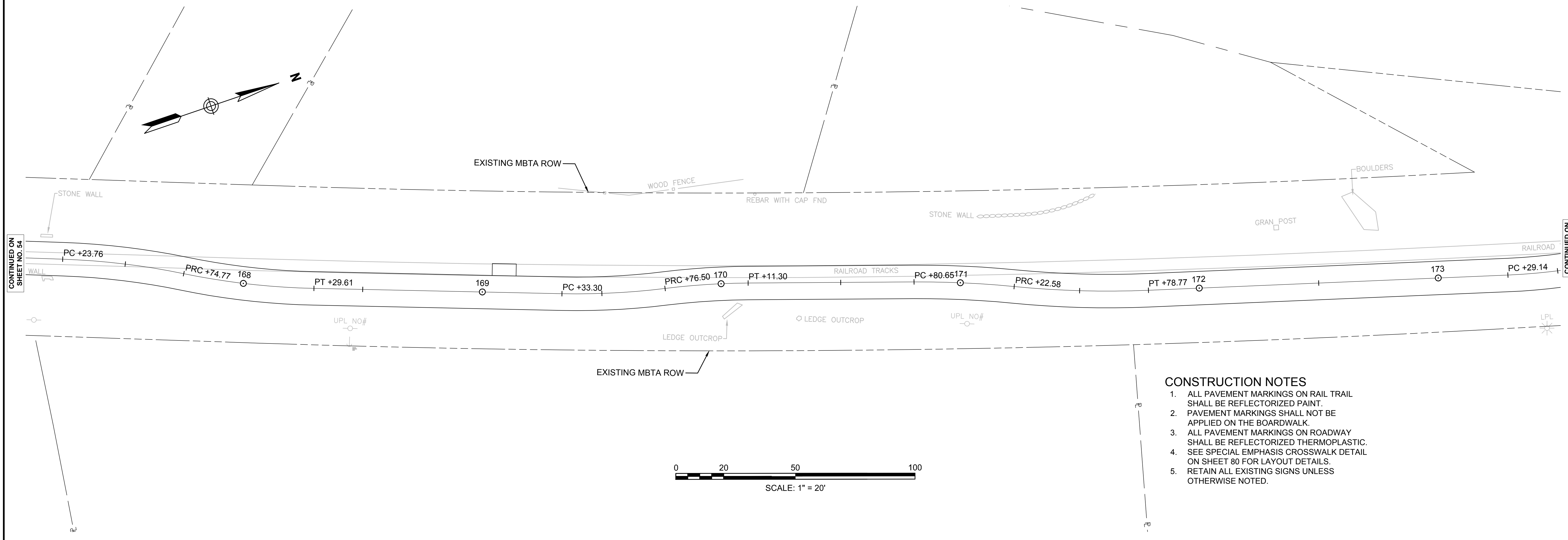
**BEGIN BOARDWALK
STA 166+50.00**

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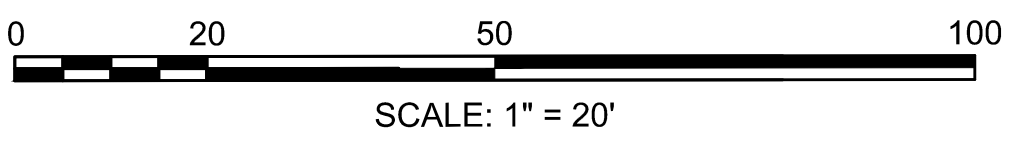
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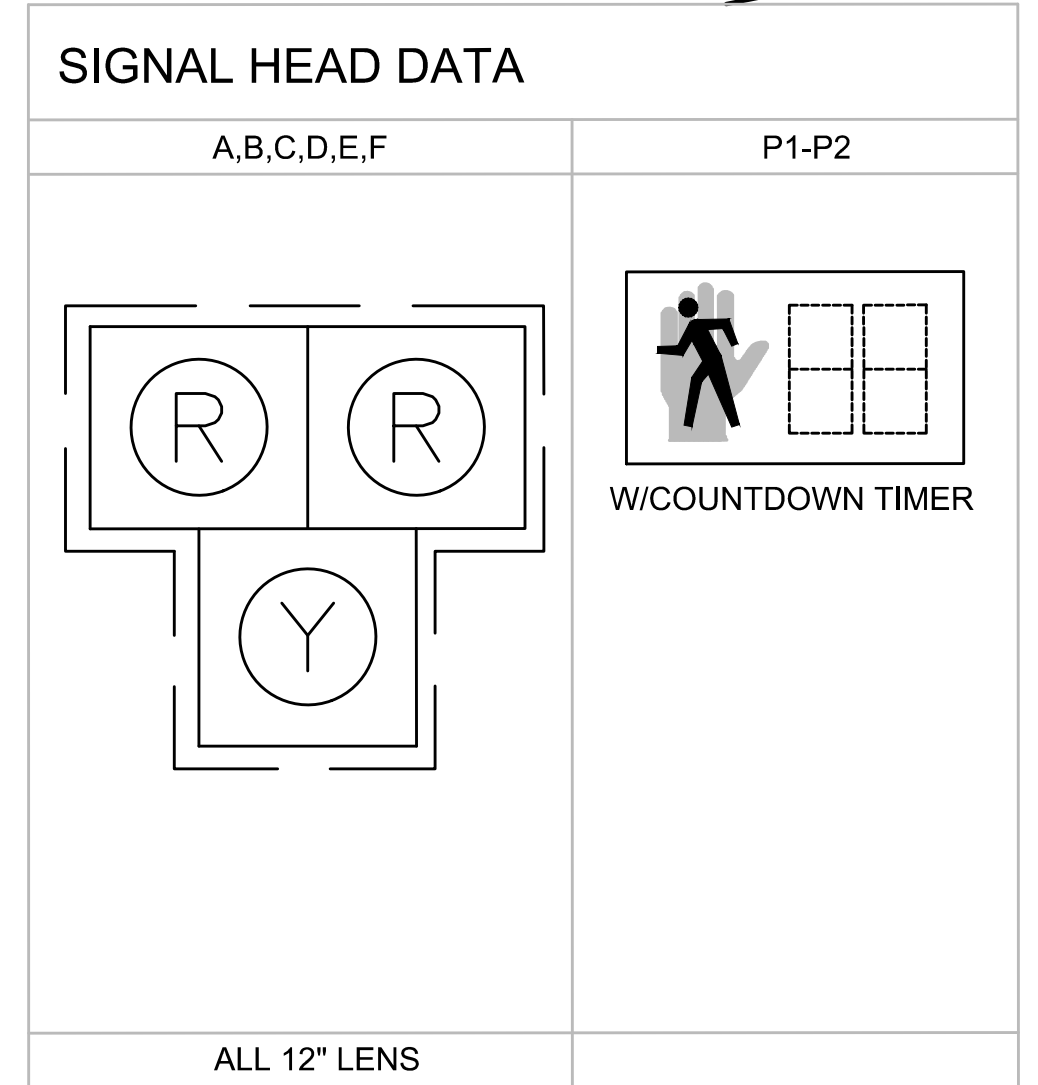
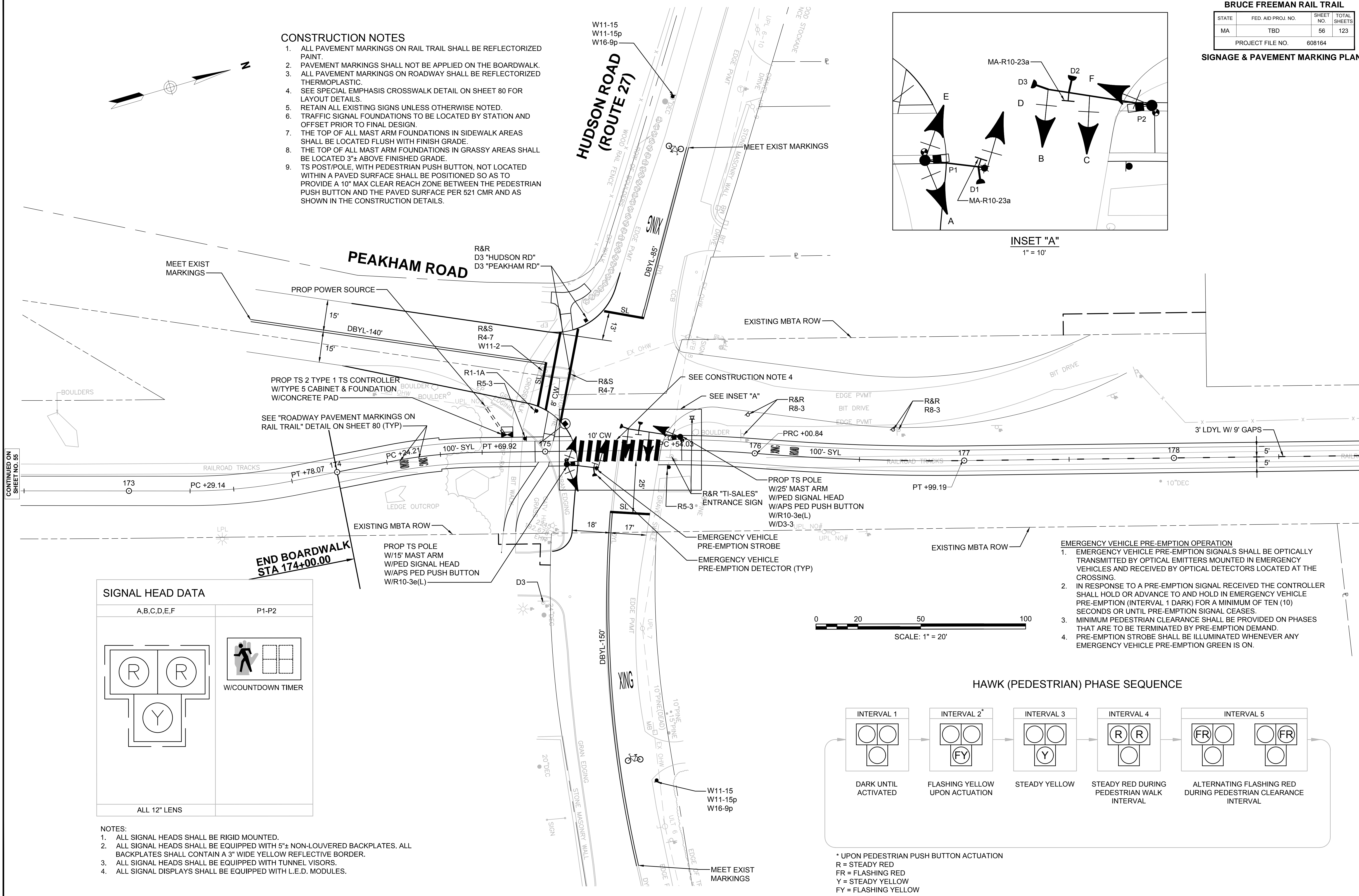
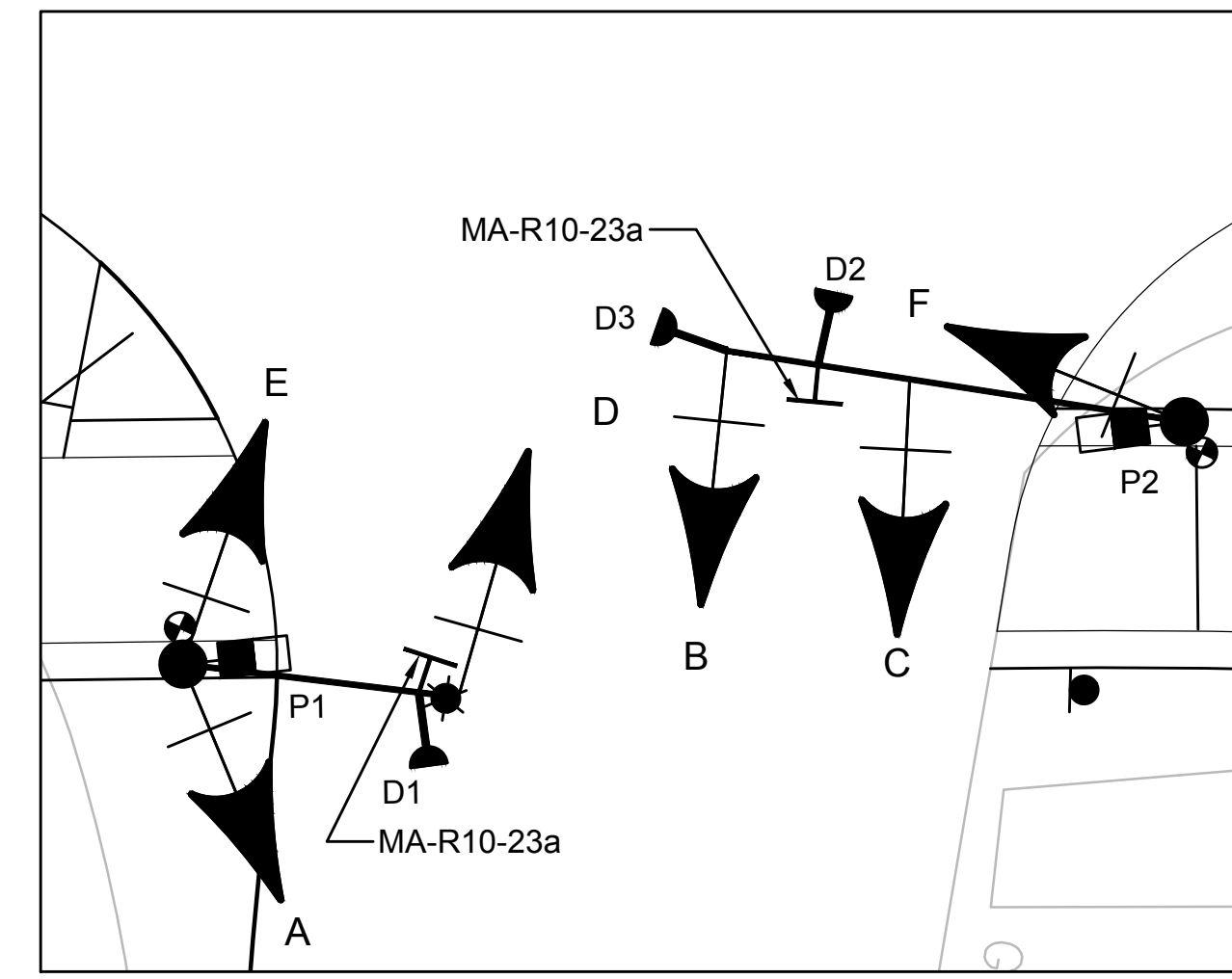
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CONTINUED ON SHEET NO. 56

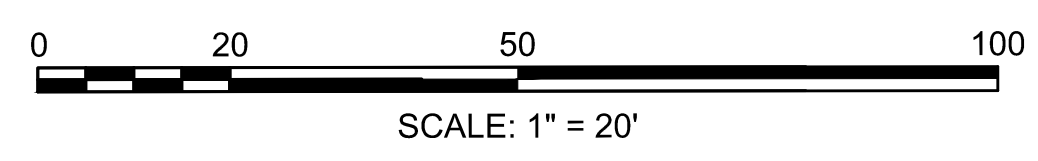
- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. PAVEMENT MARKINGS SHALL NOT BE APPLIED ON THE BOARDWALK.
 3. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 4. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 5. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



- CONSTRUCTION NOTES**
- ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 - PAVEMENT MARKINGS SHALL NOT BE APPLIED ON THE BOARDWALK.
 - ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 - SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 - RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
 - TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET PRIOR TO FINAL DESIGN.
 - THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED FLUSH WITH FINISH GRADE.
 - THE TOP OF ALL MAST ARM FOUNDATIONS IN GRASSY AREAS SHALL BE LOCATED 3"± ABOVE FINISHED GRADE.
 - TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.

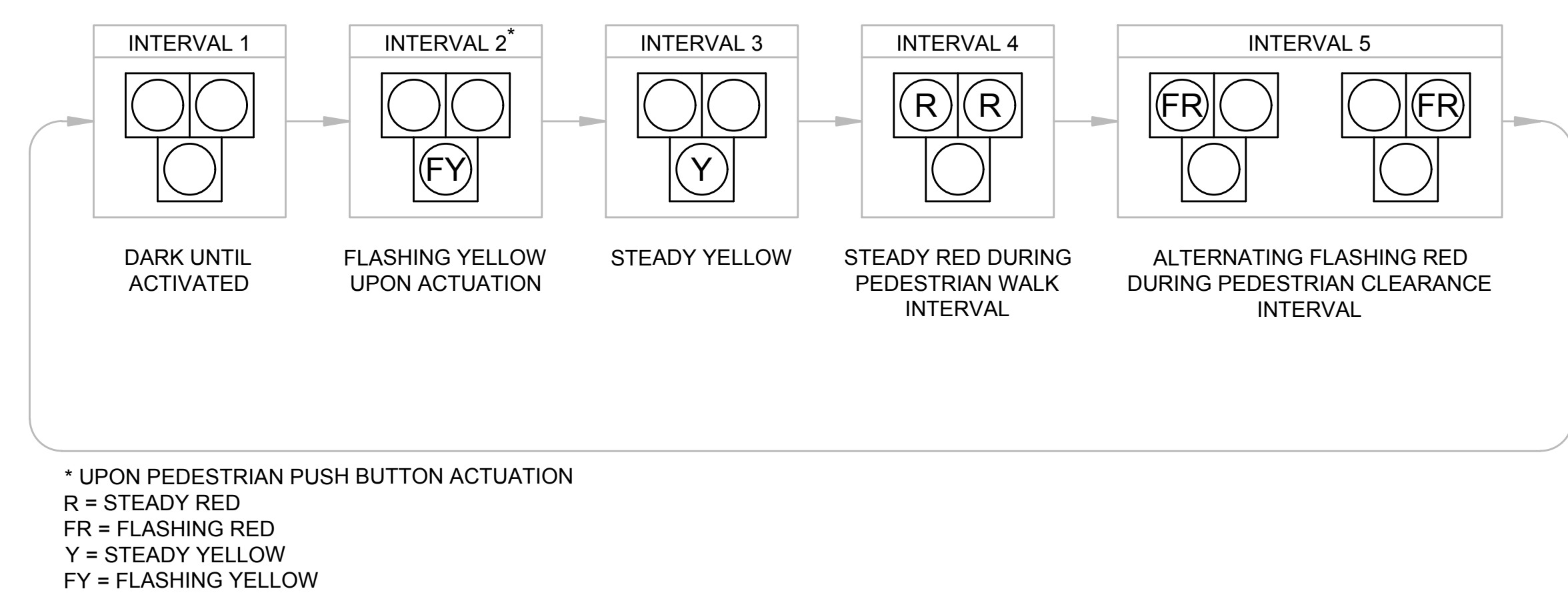


- NOTES:**
- ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
 - ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5"± NON-LOUVERED BACKPLATES. ALL BACKPLATES SHALL CONTAIN A 3" WIDE YELLOW REFLECTIVE BORDER.
 - ALL SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
 - ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.



- EMERGENCY VEHICLE PRE-EMPTION OPERATION**
- EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT THE CROSSING.
 - IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION (INTERVAL 1 DARK) FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES.
 - MINIMUM PEDESTRIAN CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
 - PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.

HAWK (PEDESTRIAN) PHASE SEQUENCE



CONTINUED ON SHEET NO. 55

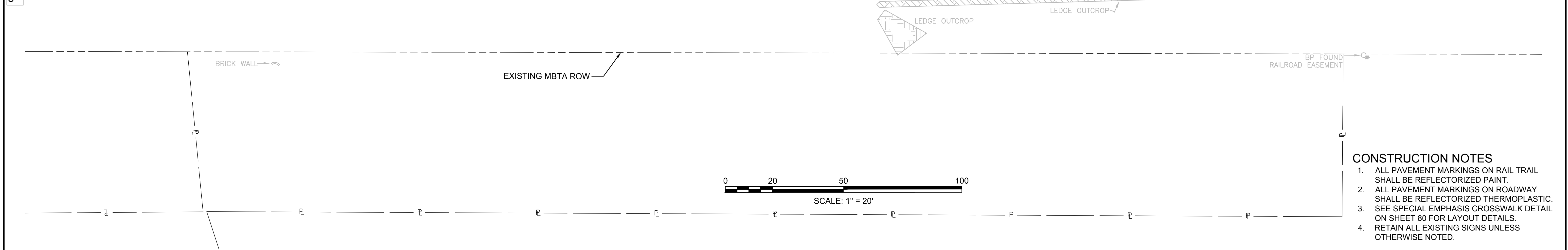
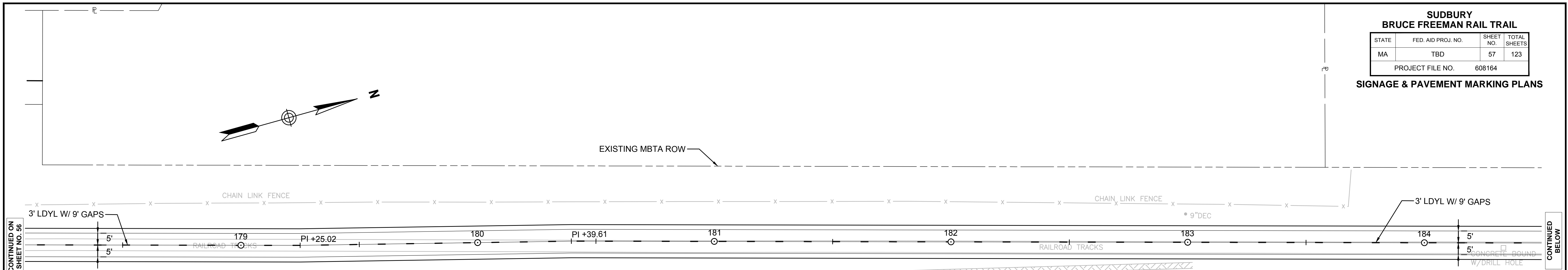
CONTINUED ON SHEET NO. 57

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

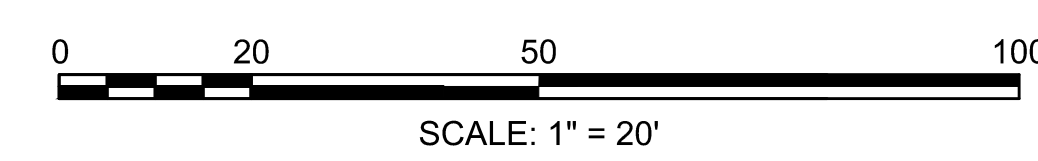
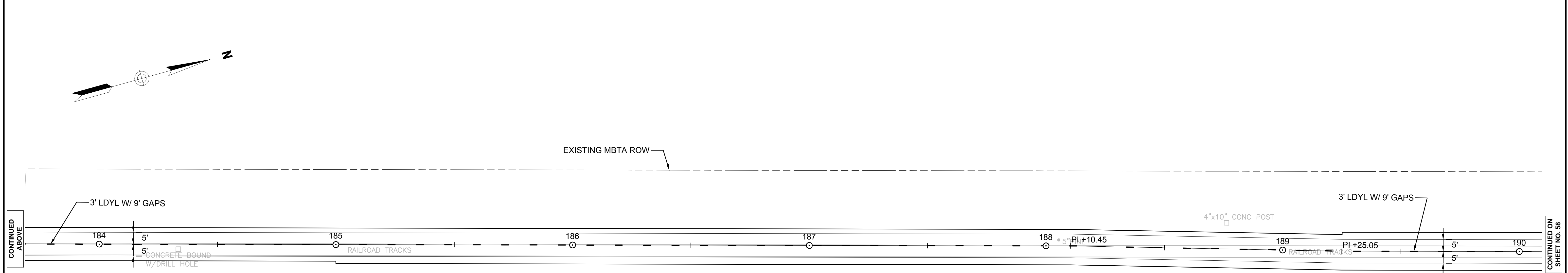
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	57	123

PROJECT FILE NO. 608164

SIGNAGE & PAVEMENT MARKING PLANS



- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

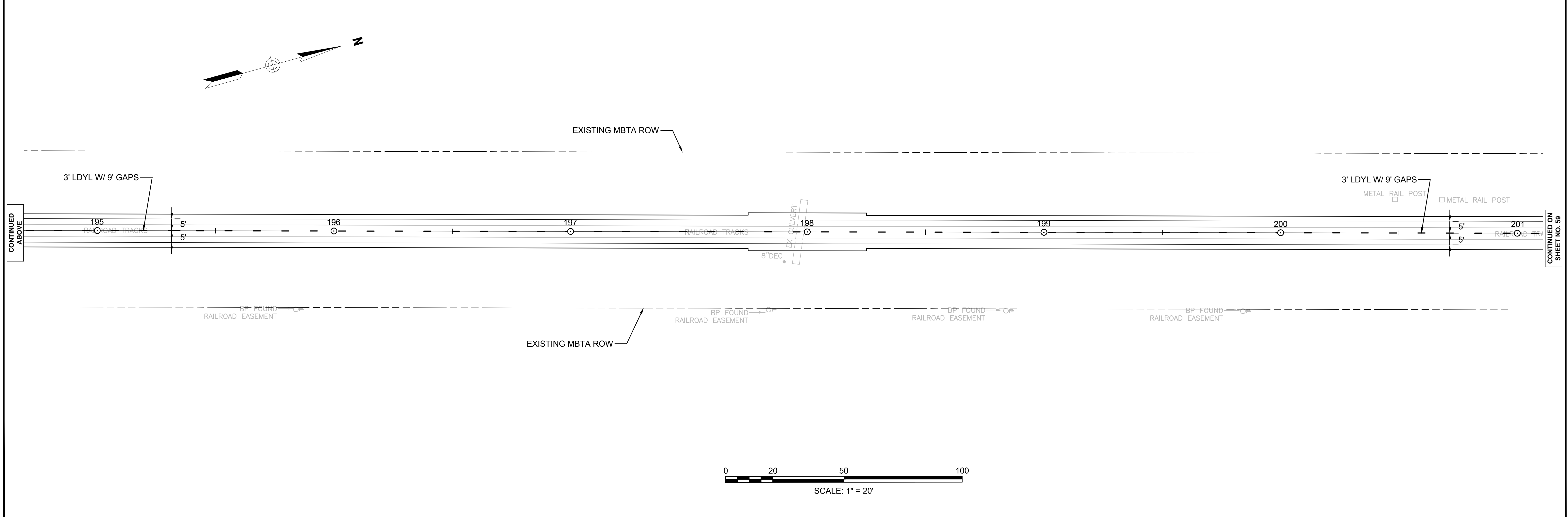
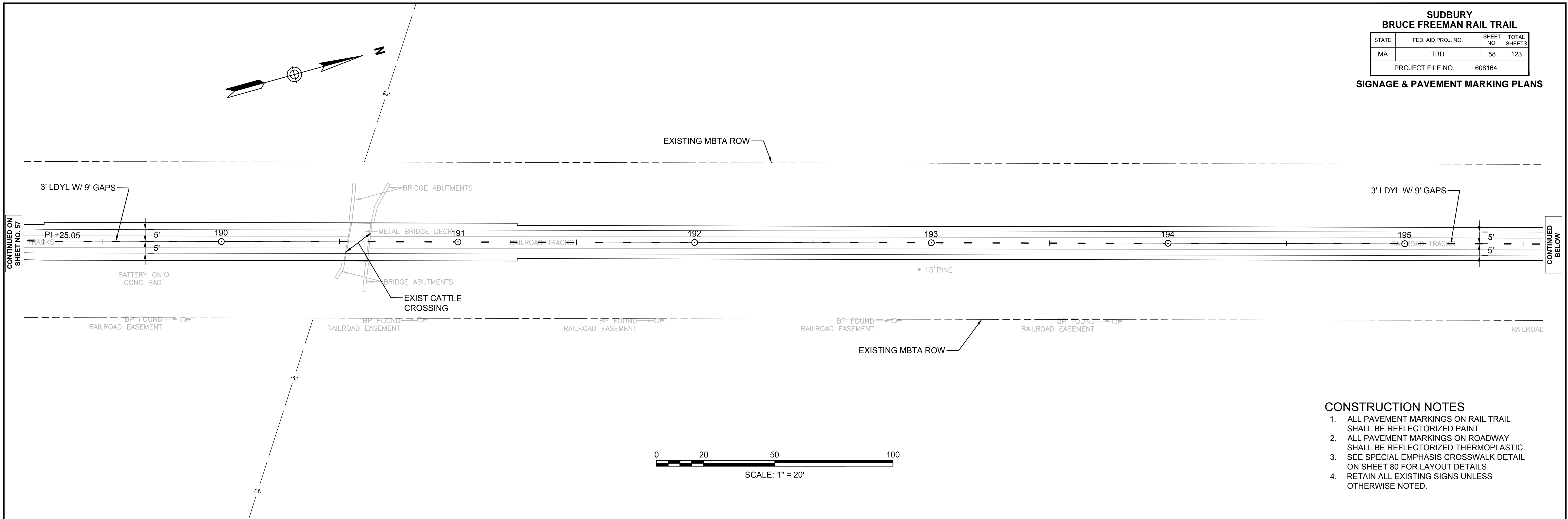


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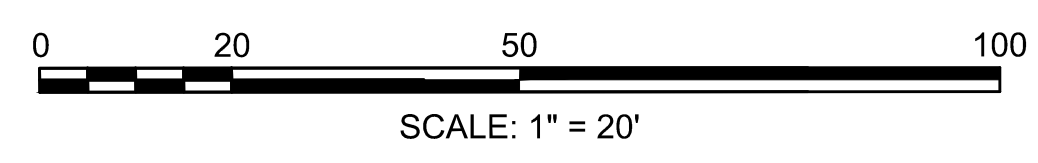
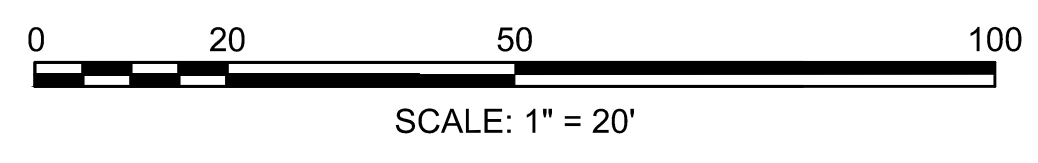
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CONTINUED ON SHEET NO. 58



- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

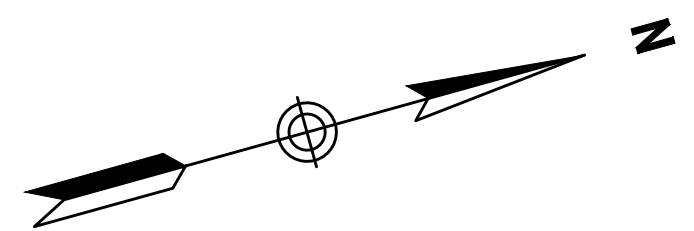


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CONTINUED ON SHEET NO. 59



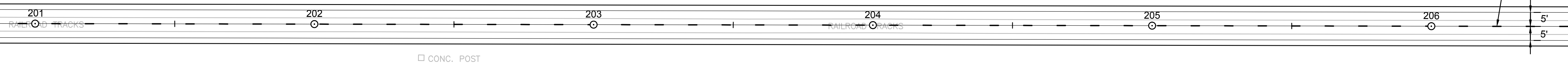
EXISTING MBTA ROW

3' LDYL W/ 9' GAPS
METAL RAIL POST □ METAL RAIL POST

3' LDYL W/ 9' GAPS

CONTINUED ON SHEET NO. 58

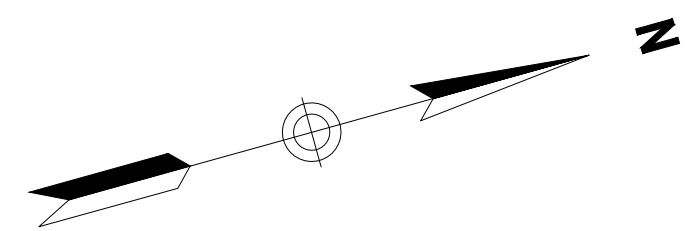
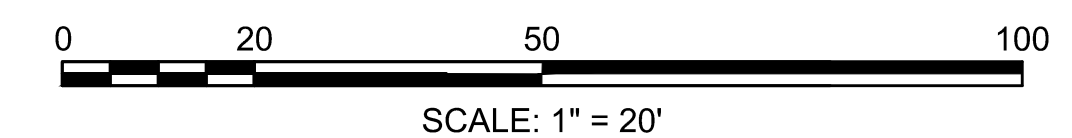
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EXISTING MBTA ROW

CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



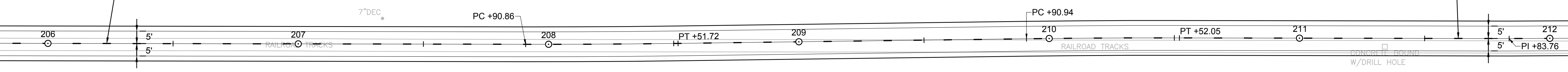
EXISTING MBTA ROW

3' LDYL W/ 9' GAPS

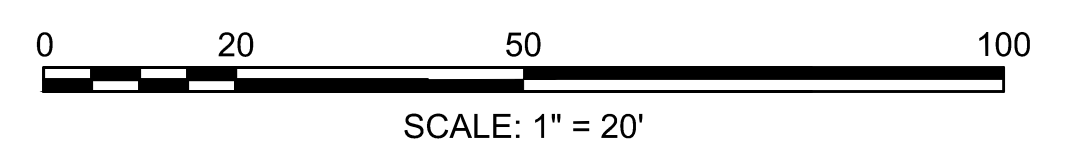
3' LDYL W/ 9' GAPS

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CONTINUED ON SHEET NO. 80



EXISTING MBTA ROW

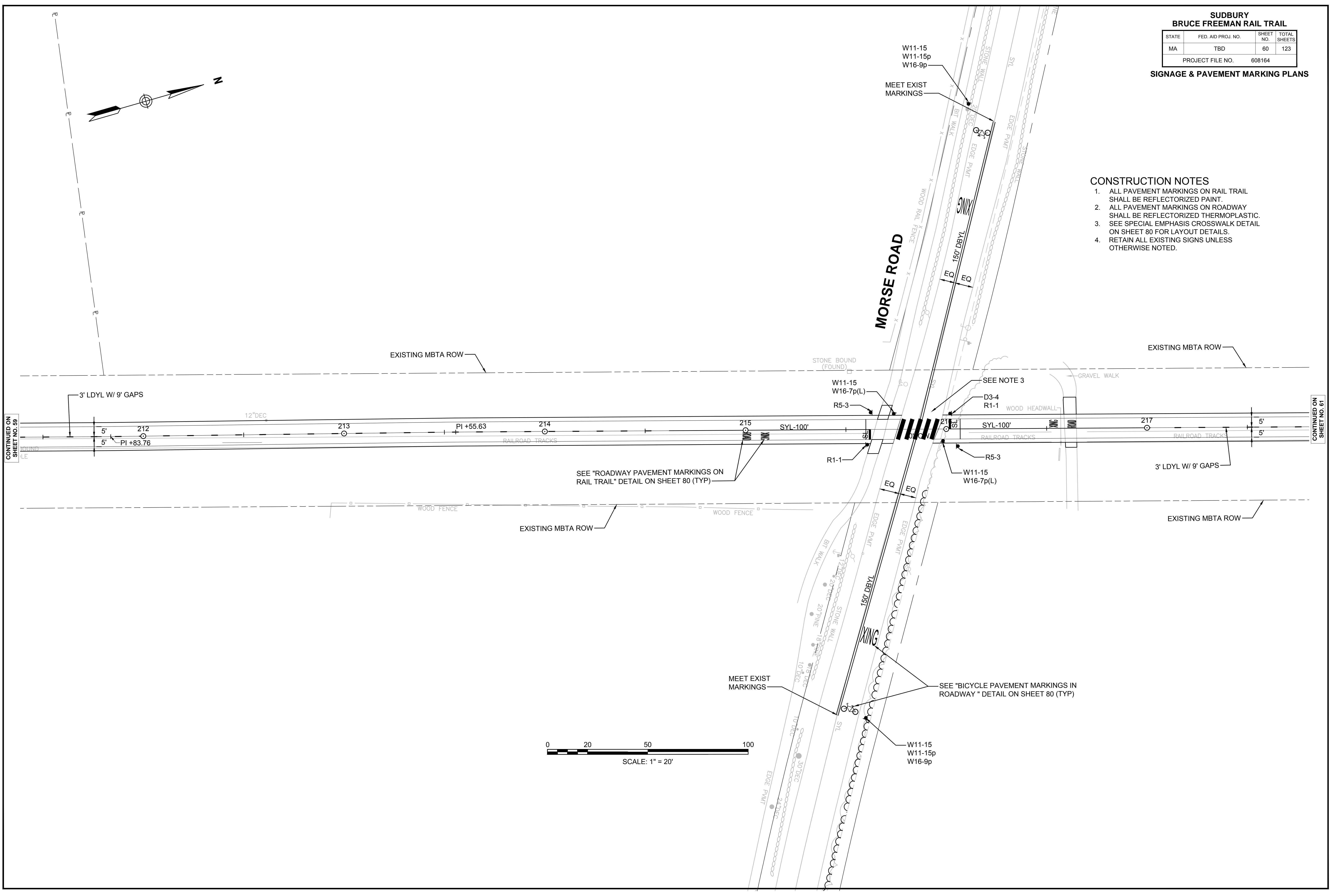


**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	60	123
PROJECT FILE NO.		608164	

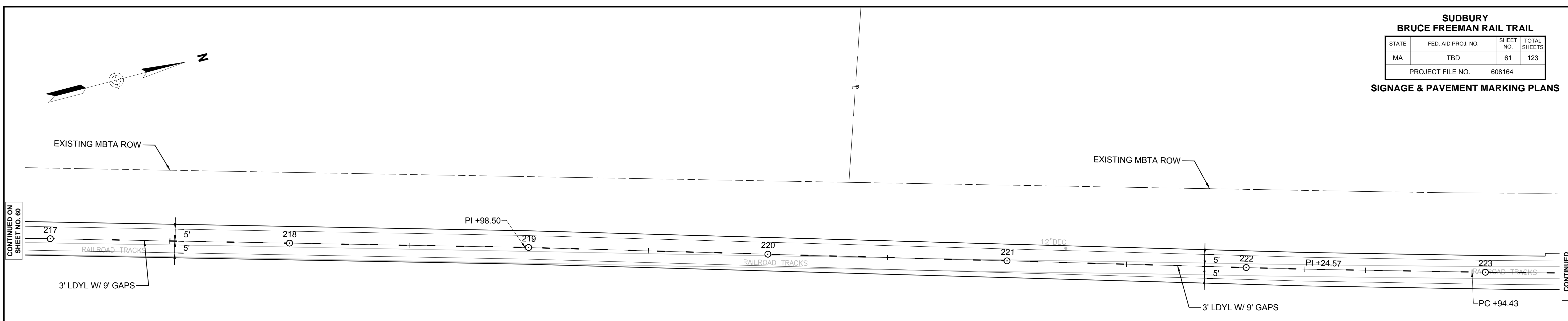
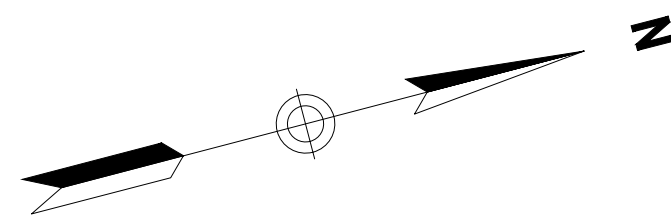
SIGNAGE & PAVEMENT MARKING PLANS

- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



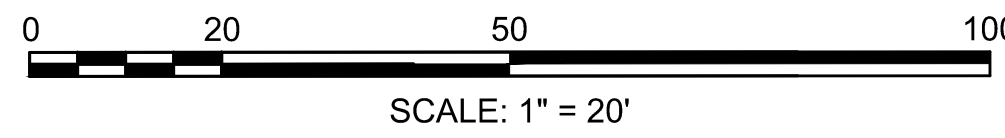
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CONTINUED ON SHEET NO. 61



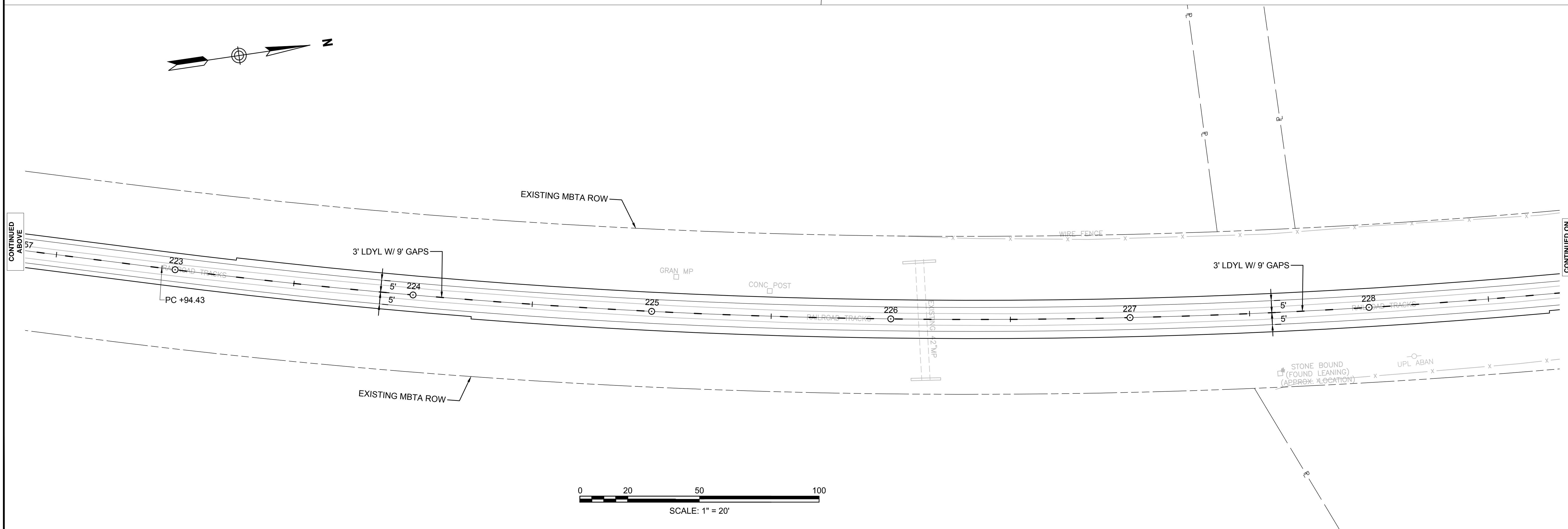
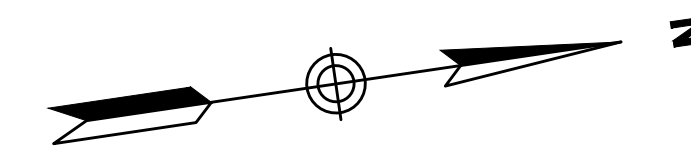
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CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

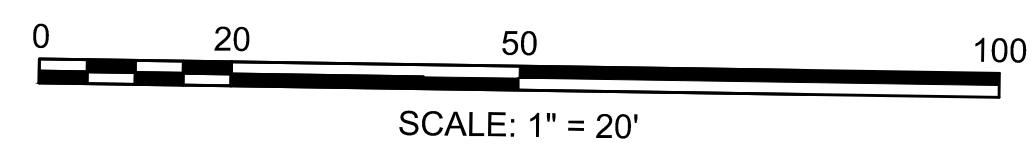
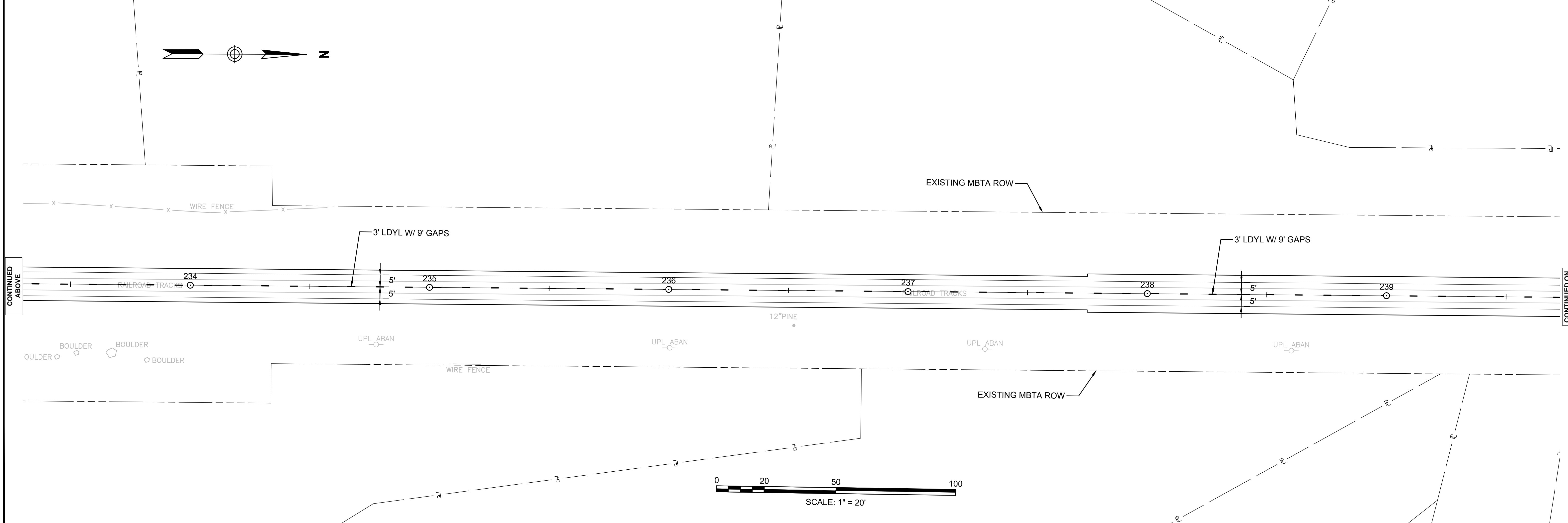
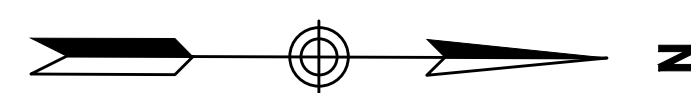
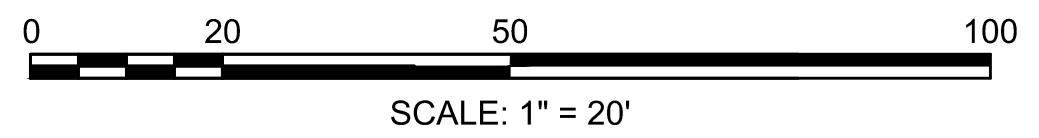
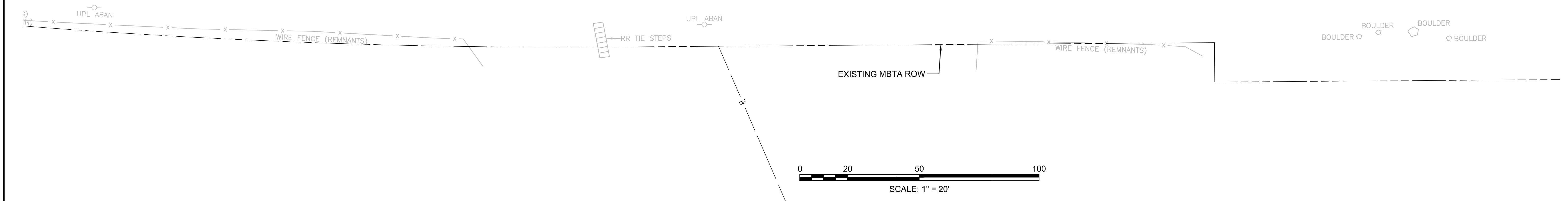
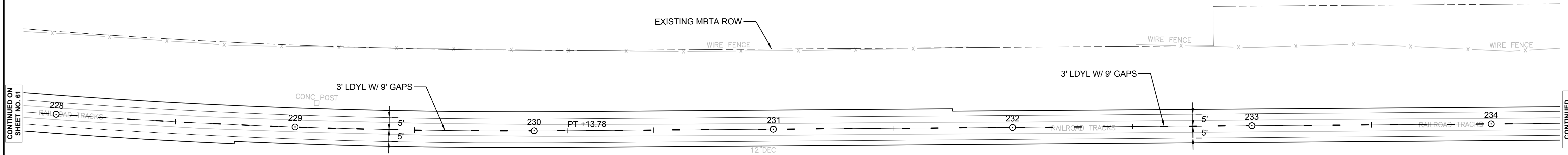
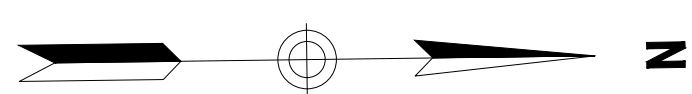


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CONTINUED ON SHEET NO. 62



- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

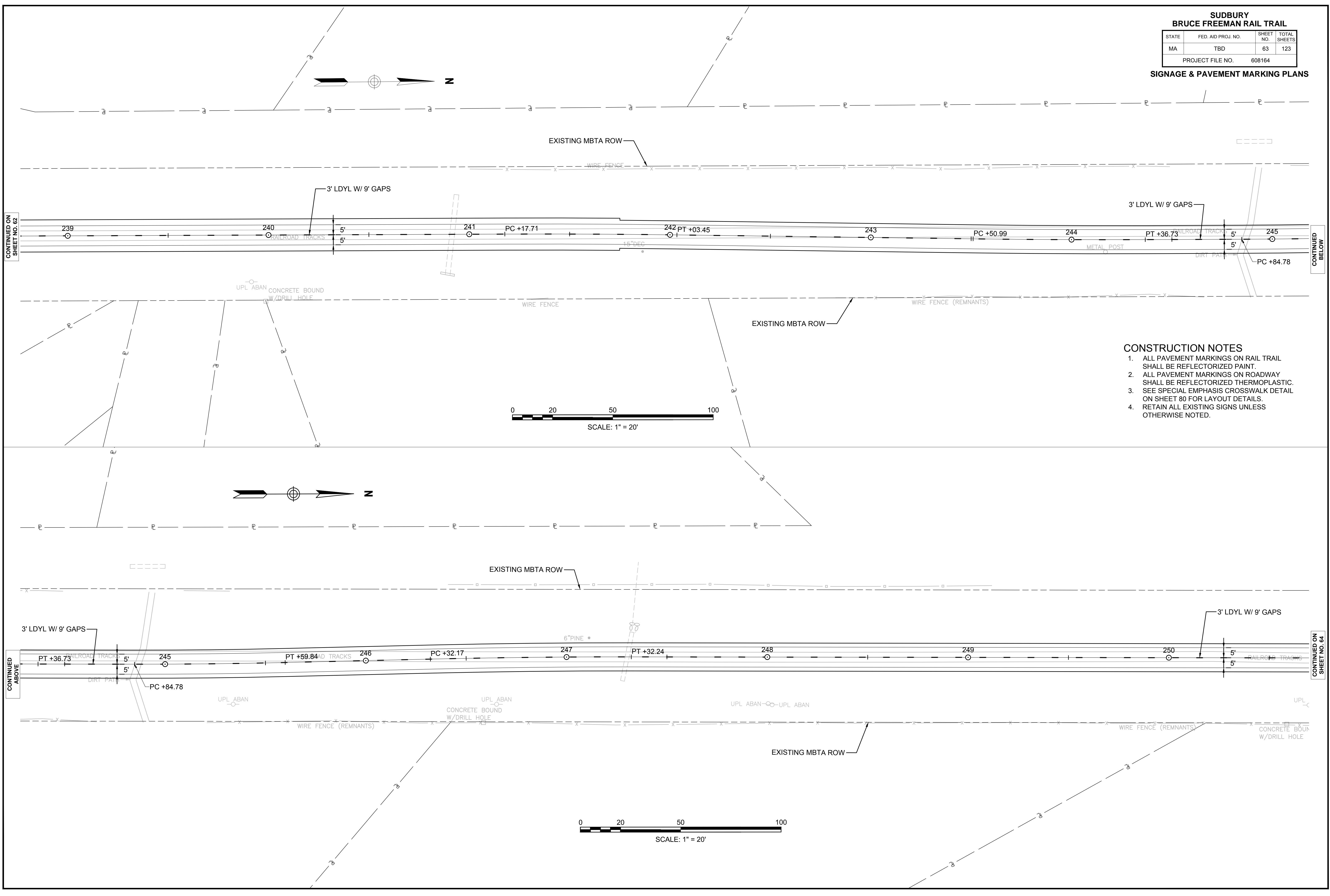


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CONTINUED ON SHEET NO. 63



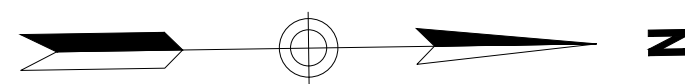
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- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

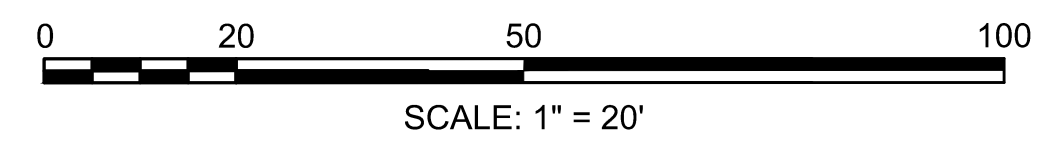
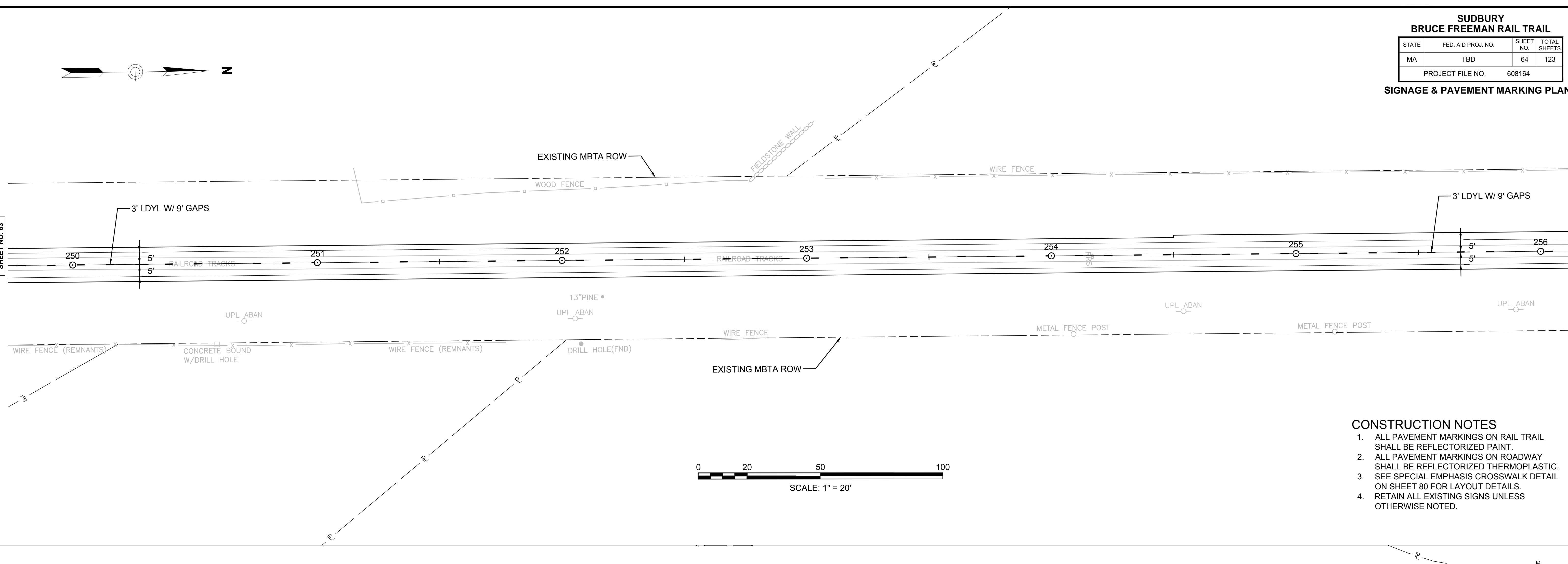
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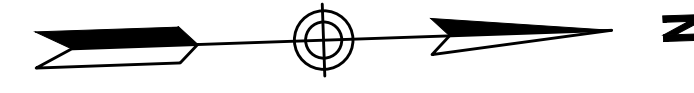


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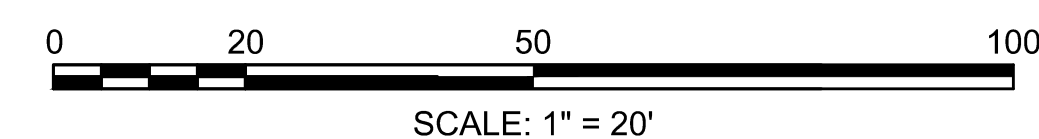
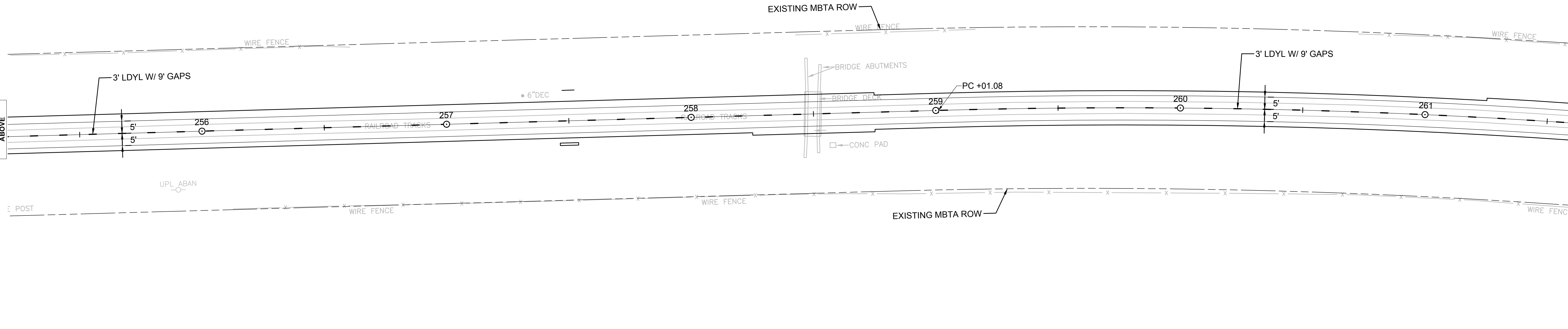


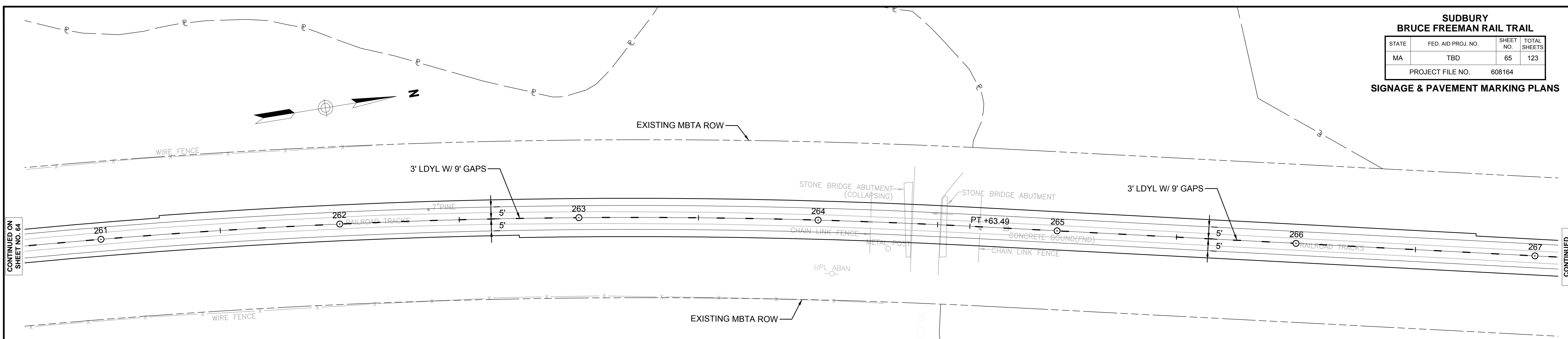
- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



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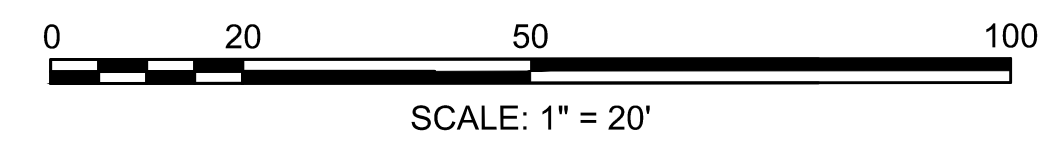
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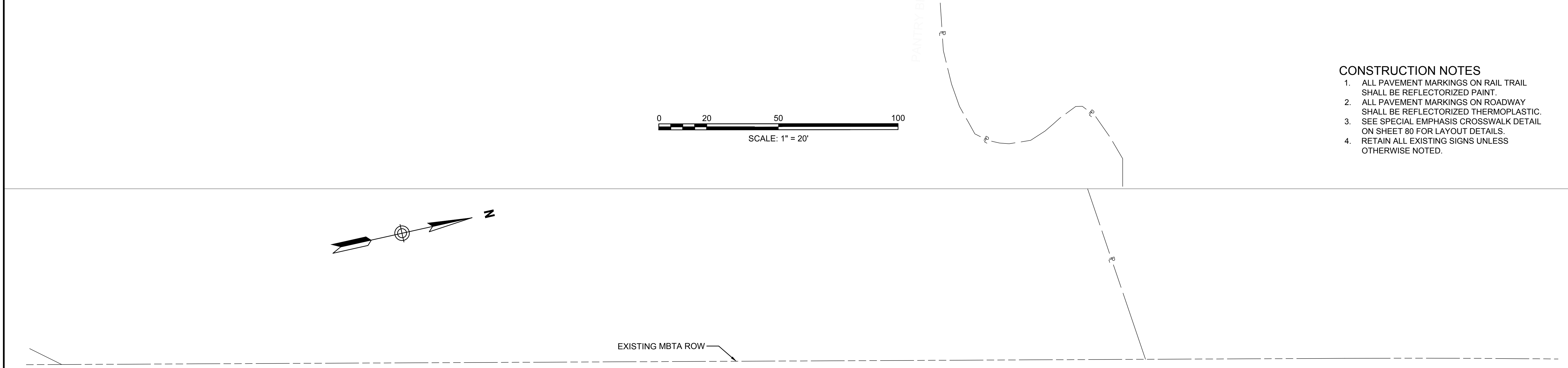


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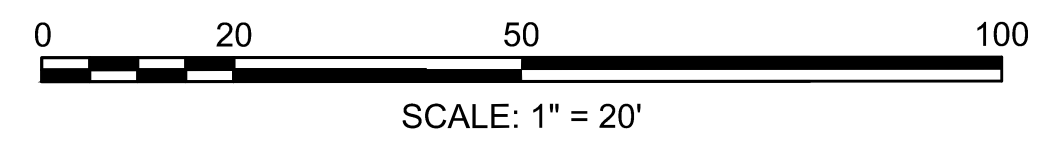


- CONSTRUCTION NOTES**
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 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



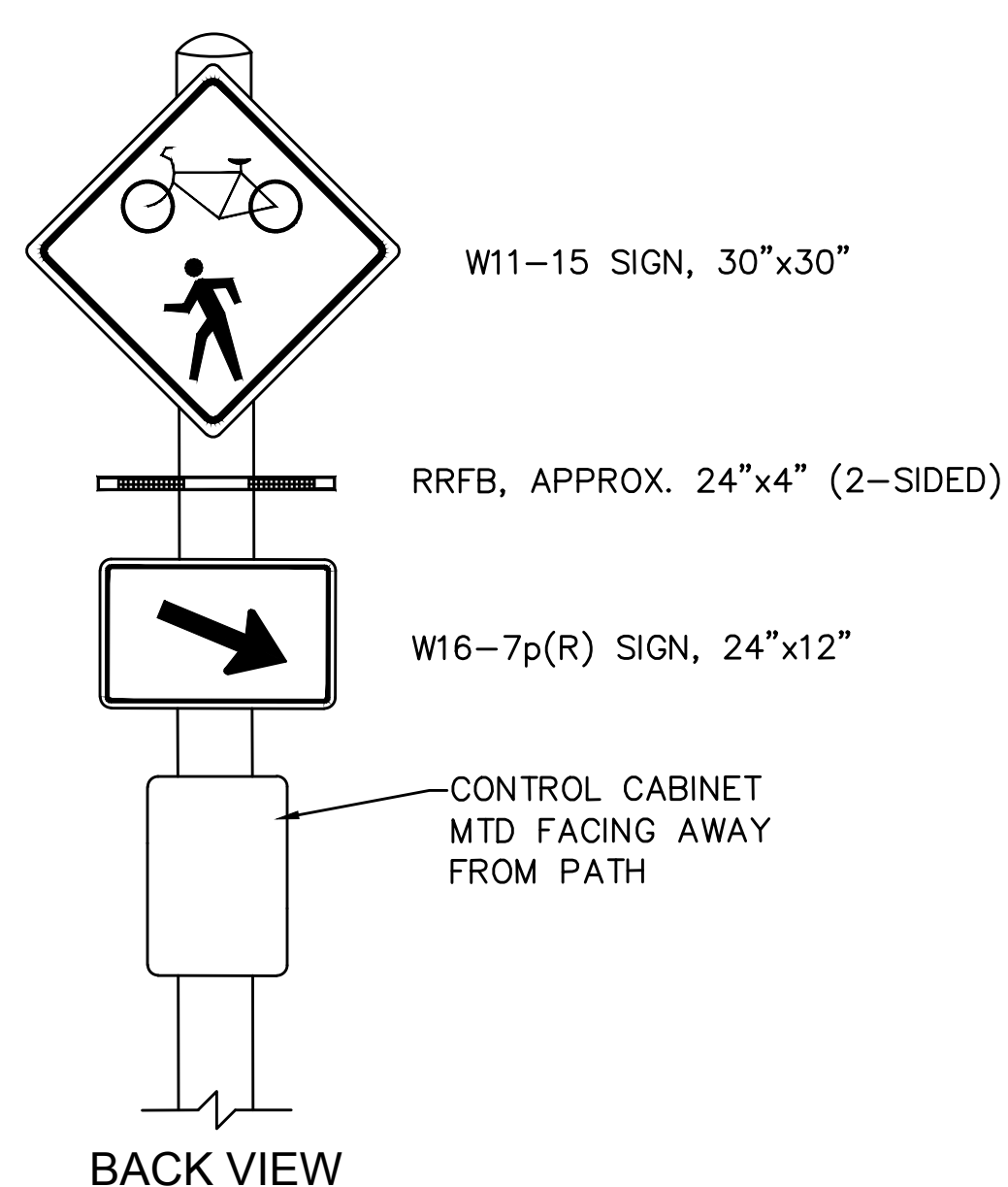
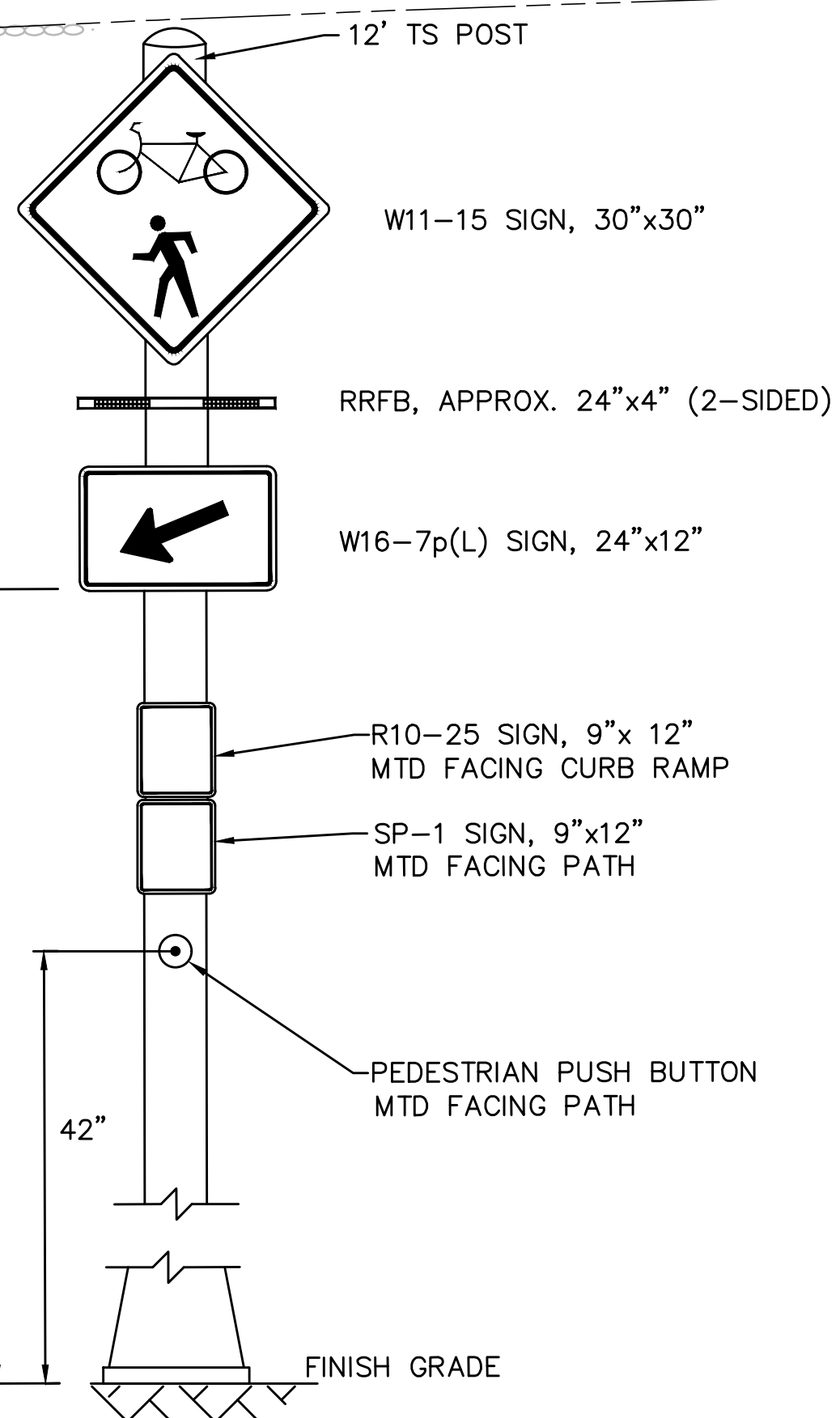
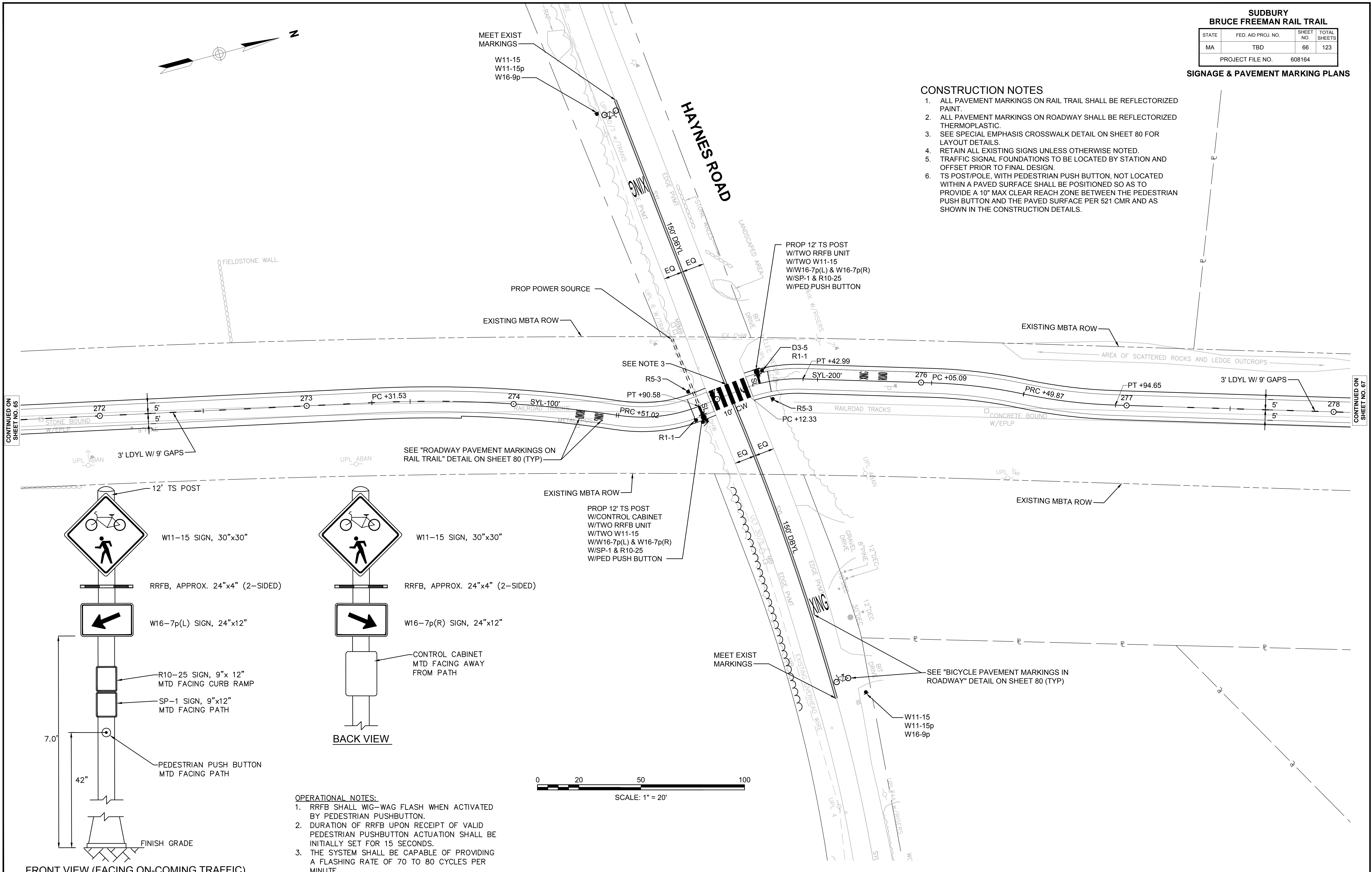
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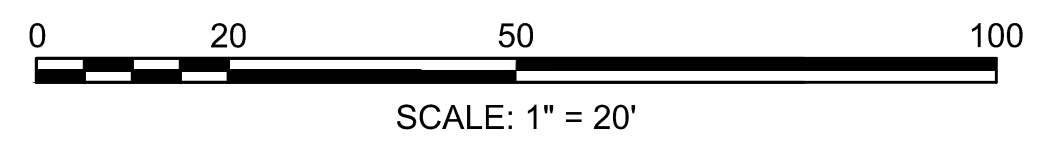


CONSTRUCTION NOTES

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2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
5. TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET PRIOR TO FINAL DESIGN.
6. TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.



- OPERATIONAL NOTES:**
1. RRFB SHALL WIG-WAG FLASH WHEN ACTIVATED BY PEDESTRIAN PUSHBUTTON.
 2. DURATION OF RRFB UPON RECEIPT OF VALID PEDESTRIAN PUSHBUTTON ACTUATION SHALL BE INITIALLY SET FOR 15 SECONDS.
 3. THE SYSTEM SHALL BE CAPABLE OF PROVIDING A FLASHING RATE OF 70 TO 80 CYCLES PER MINUTE.

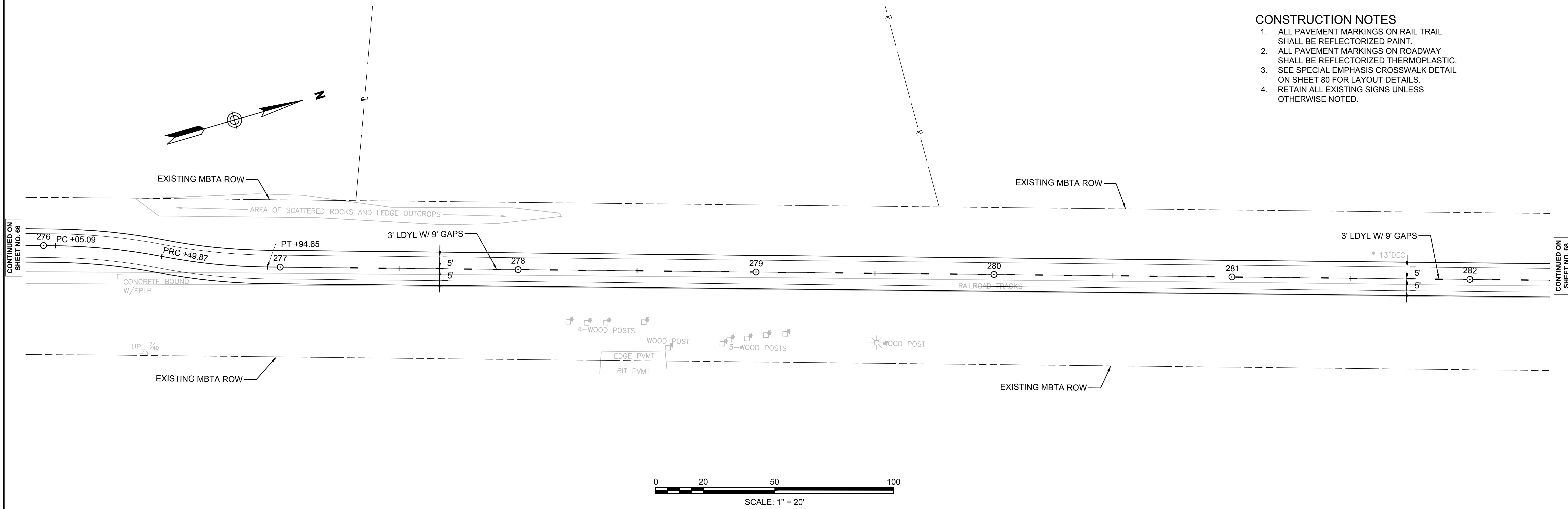


RECTANGULAR RAPID FLASHING BEACON (RRFB) - POST MOUNTED
SCALE: N.T.S.

CONTINUED ON SHEET NO. 65

CONTINUED ON SHEET NO. 67

- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



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CONTINUED ON SHEET NO. 68

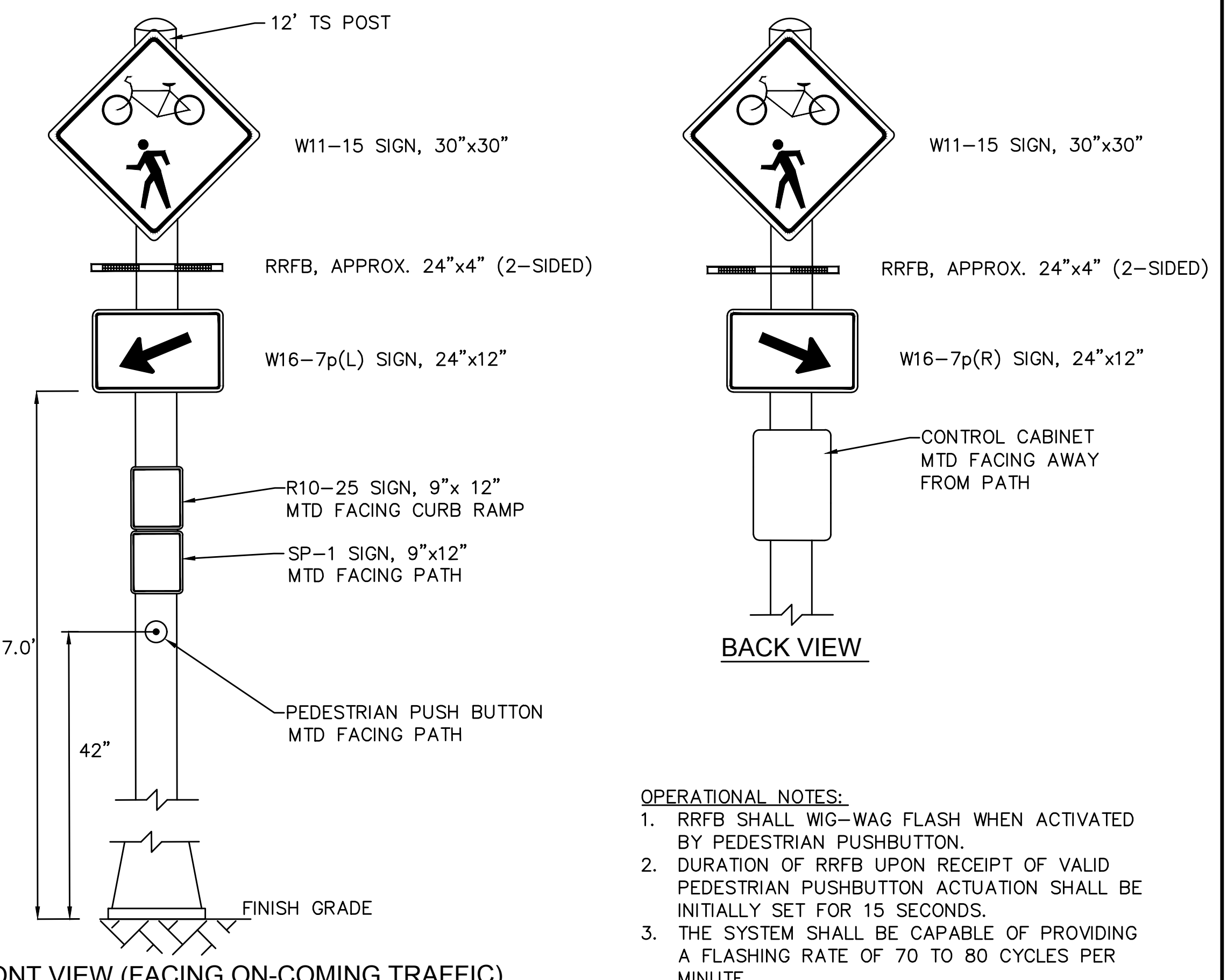
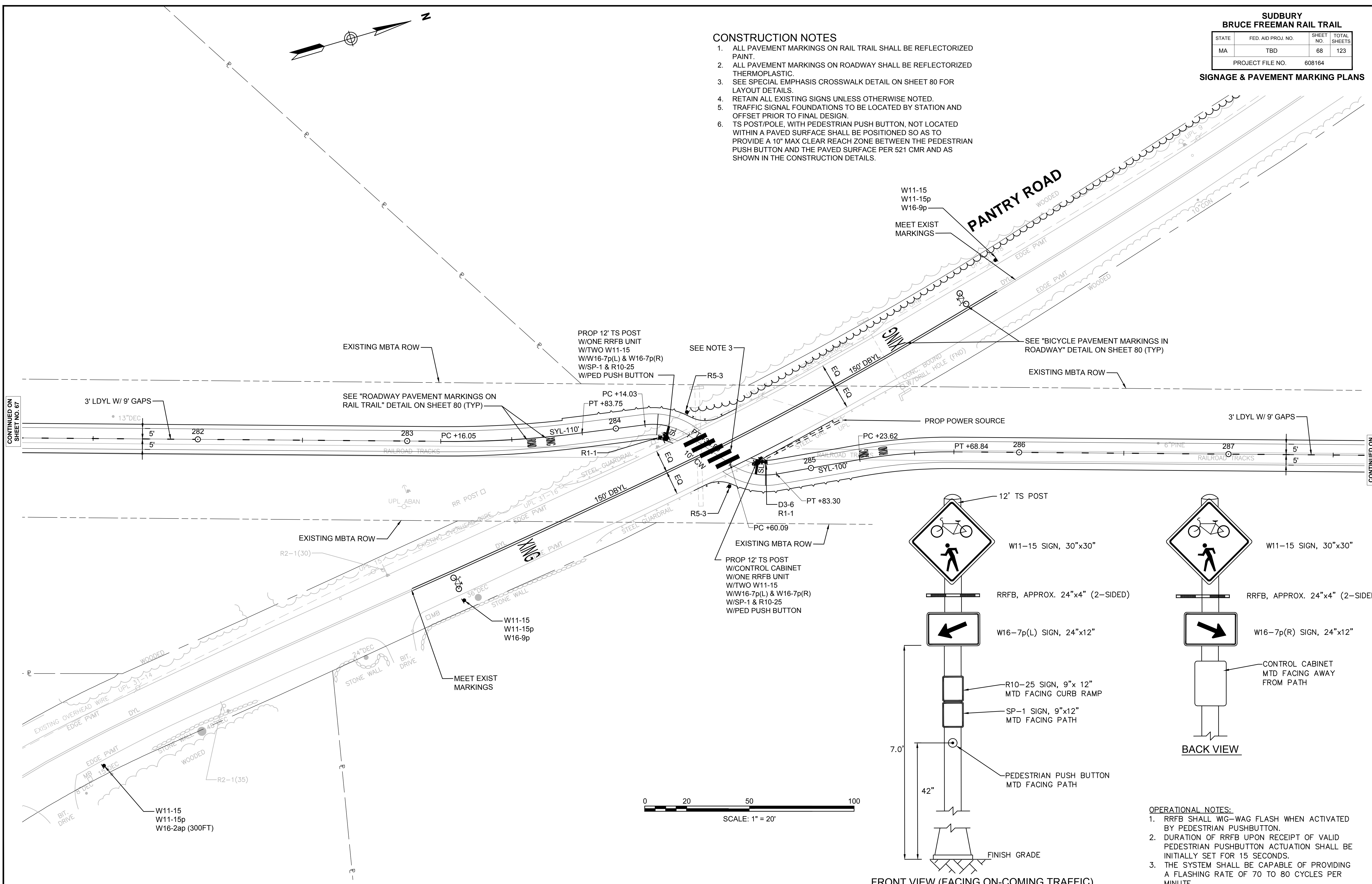
SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	68	123
PROJECT FILE NO.		608164	

SIGNAGE & PAVEMENT MARKING PLANS

CONSTRUCTION NOTES

1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
5. TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET PRIOR TO FINAL DESIGN.
6. TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10" MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.

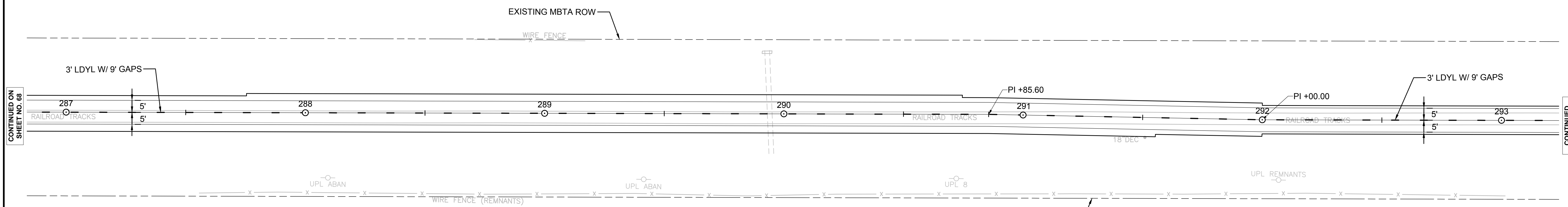
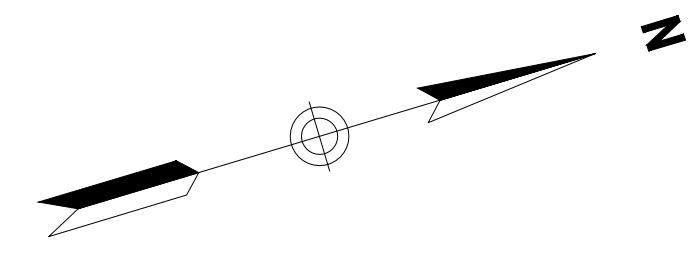


- OPERATIONAL NOTES:**
1. RRFB SHALL WIG-WAG FLASH WHEN ACTIVATED BY PEDESTRIAN PUSHBUTTON.
 2. DURATION OF RRFB UPON RECEIPT OF VALID PEDESTRIAN PUSHBUTTON ACTUATION SHALL BE INITIALLY SET FOR 15 SECONDS.
 3. THE SYSTEM SHALL BE CAPABLE OF PROVIDING A FLASHING RATE OF 70 TO 80 CYCLES PER MINUTE.

FRONT VIEW (FACING ON-COMING TRAFFIC)
RECTANGULAR RAPID FLASHING BEACON (RRFB) - POST MOUNTED
SCALE: N.T.S.

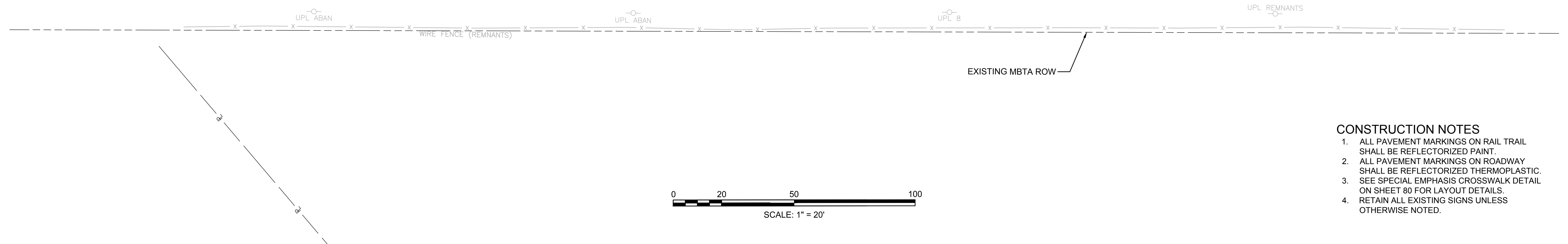
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CONTINUED ON SHEET NO. 69



CONTINUED ON SHEET NO. 68

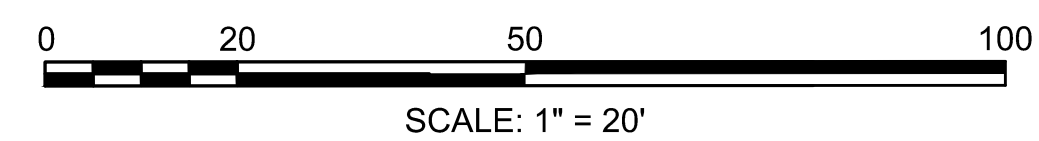
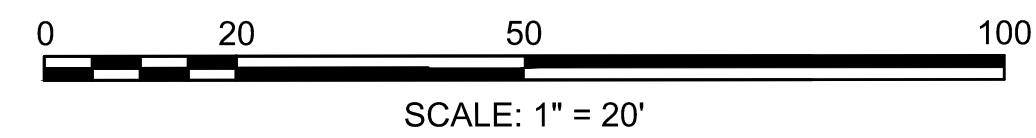
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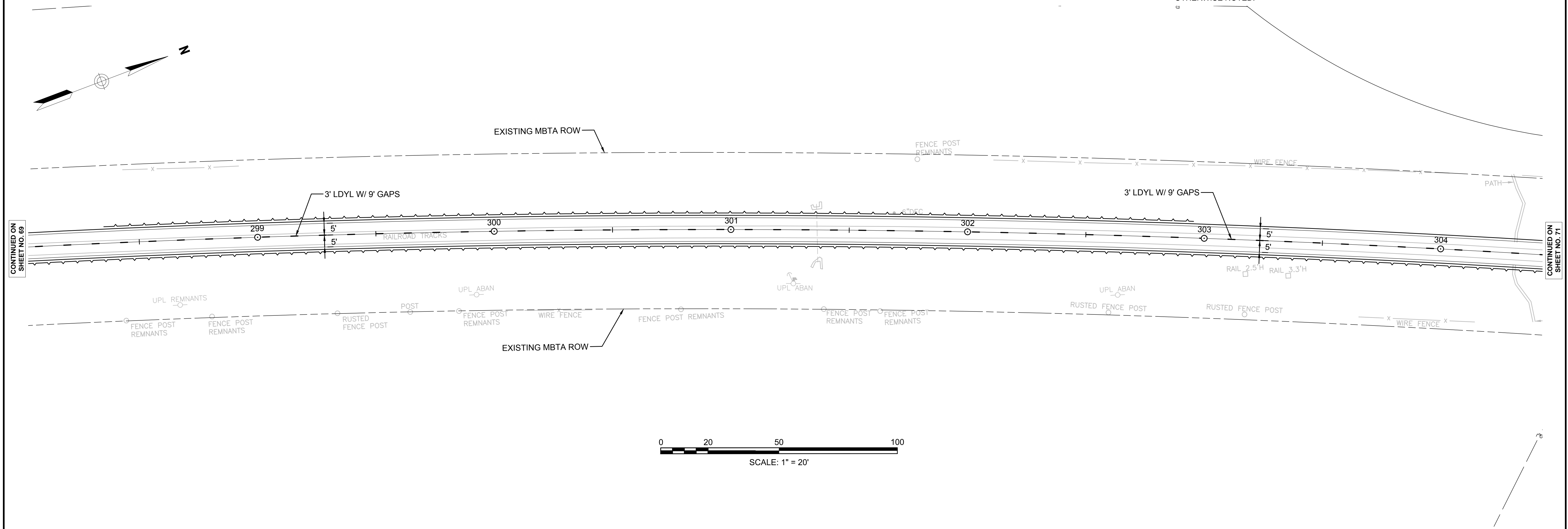
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- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.

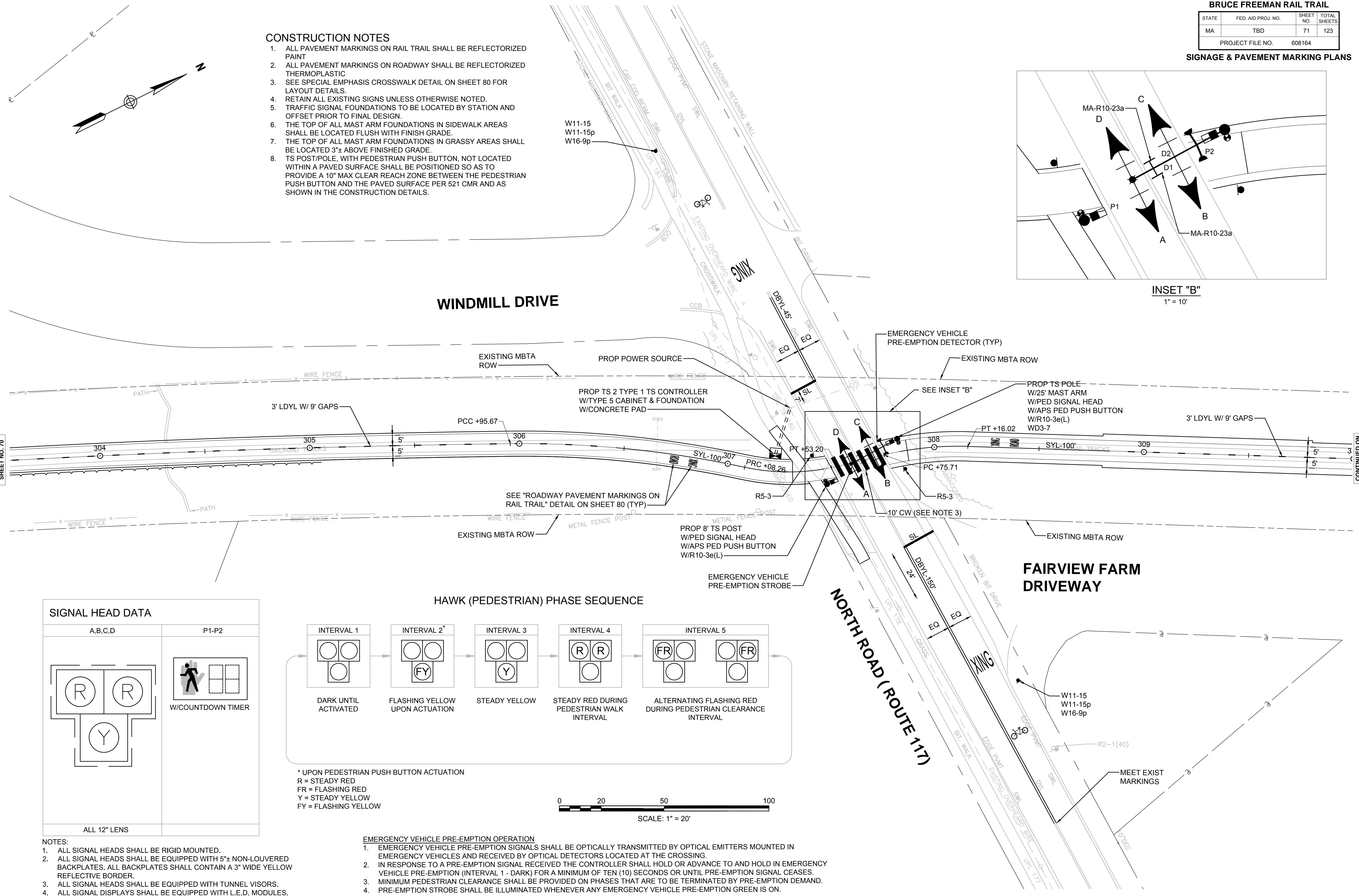
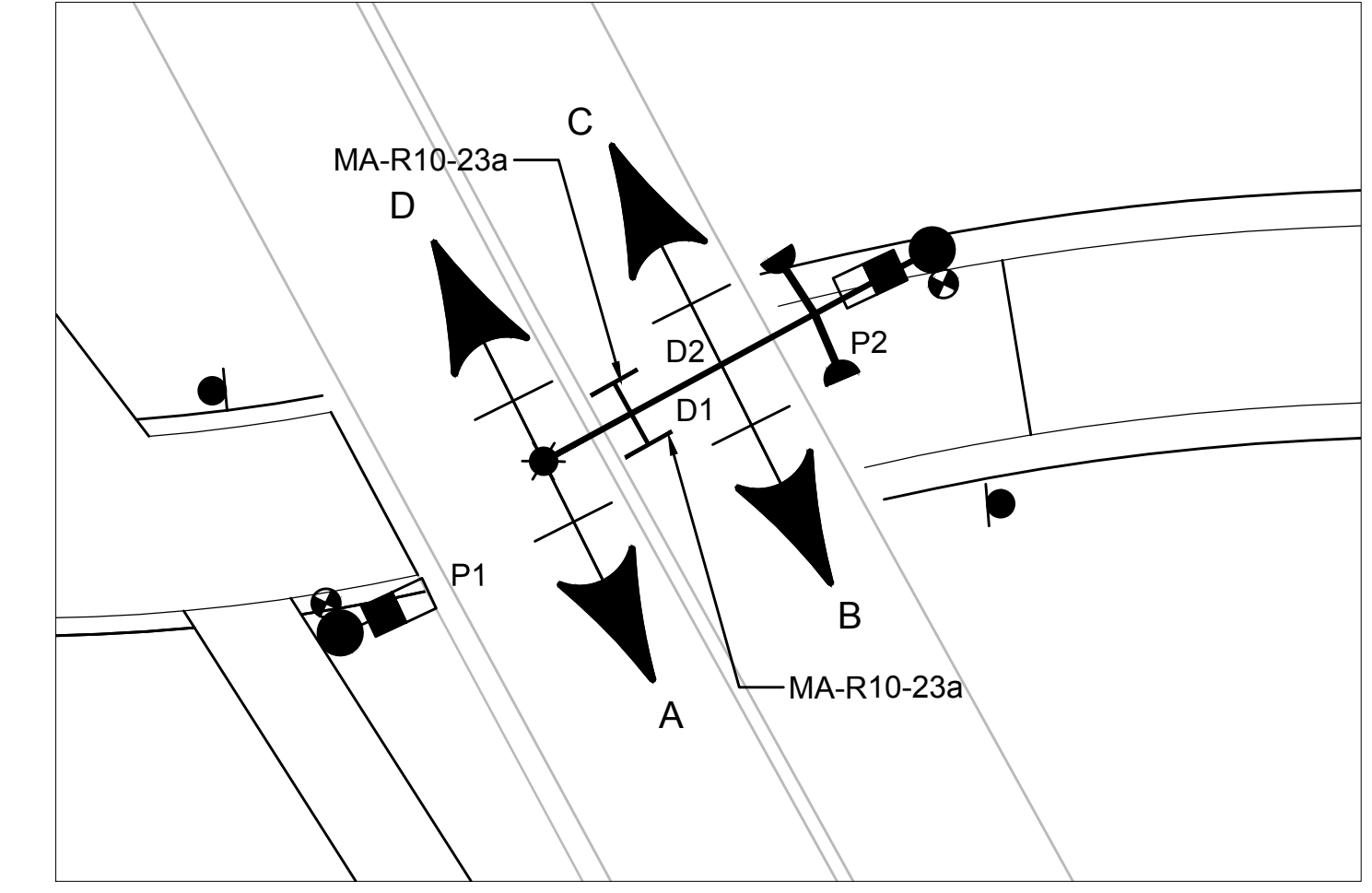


CONSTRUCTION NOTES

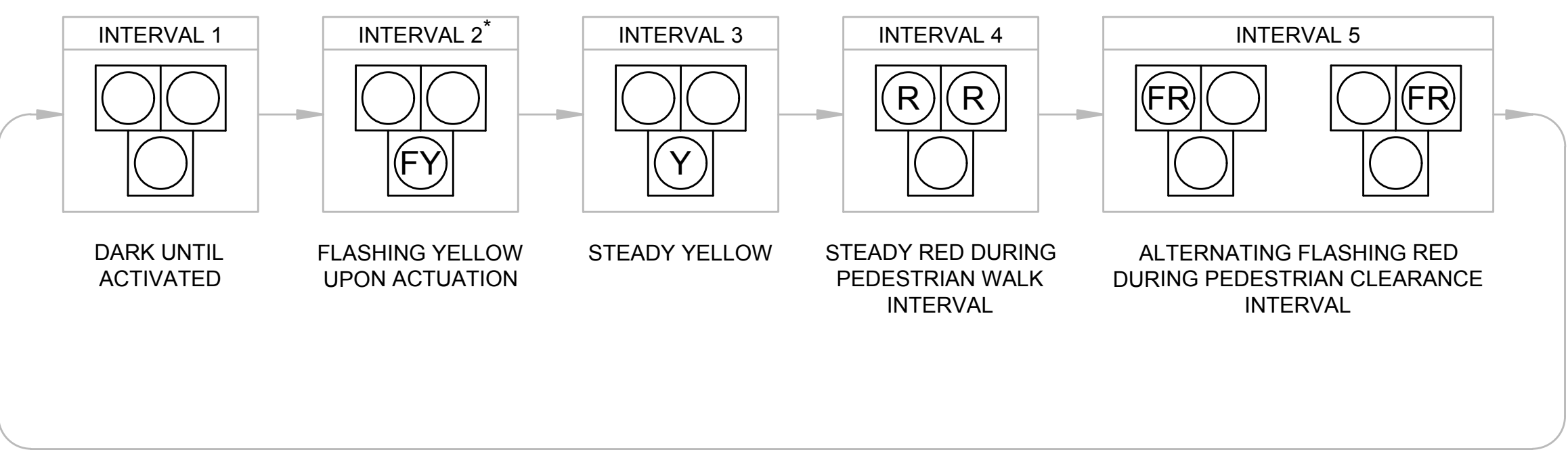
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
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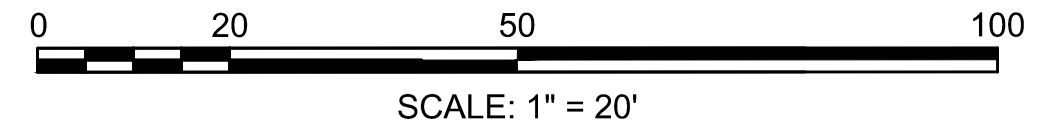
- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.
 5. TRAFFIC SIGNAL FOUNDATIONS TO BE LOCATED BY STATION AND OFFSET PRIOR TO FINAL DESIGN.
 6. THE TOP OF ALL MAST ARM FOUNDATIONS IN SIDEWALK AREAS SHALL BE LOCATED FLUSH WITH FINISH GRADE.
 7. THE TOP OF ALL MAST ARM FOUNDATIONS IN GRASSY AREAS SHALL BE LOCATED 3"± ABOVE FINISHED GRADE.
 8. TS POST/POLE, WITH PEDESTRIAN PUSH BUTTON, NOT LOCATED WITHIN A PAVED SURFACE SHALL BE POSITIONED SO AS TO PROVIDE A 10' MAX CLEAR REACH ZONE BETWEEN THE PEDESTRIAN PUSH BUTTON AND THE PAVED SURFACE PER 521 CMR AND AS SHOWN IN THE CONSTRUCTION DETAILS.



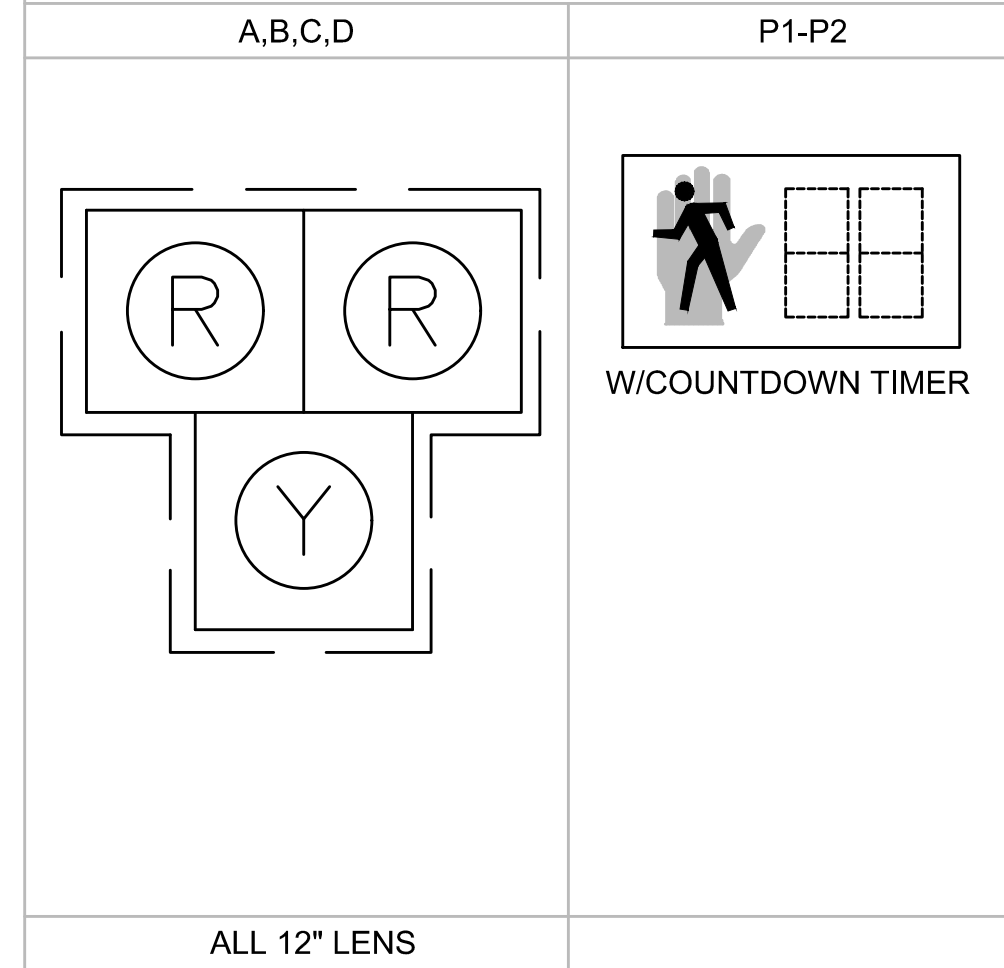
HAWK (PEDESTRIAN) PHASE SEQUENCE



* UPON PEDESTRIAN PUSH BUTTON ACTUATION
R = STEADY RED
FR = FLASHING RED
Y = STEADY YELLOW
FY = FLASHING YELLOW



SIGNAL HEAD DATA



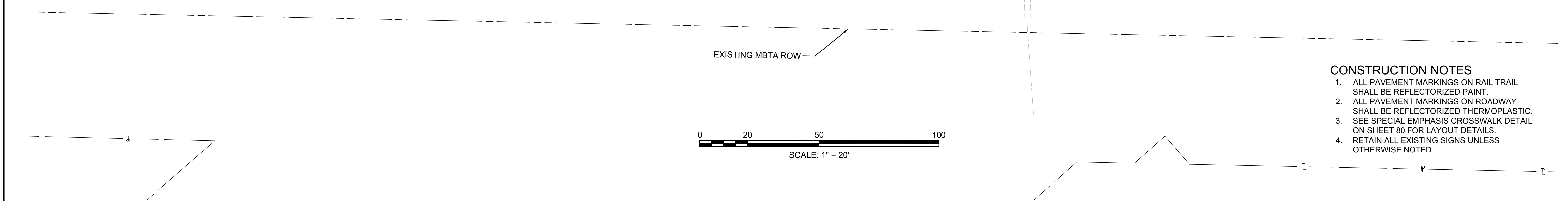
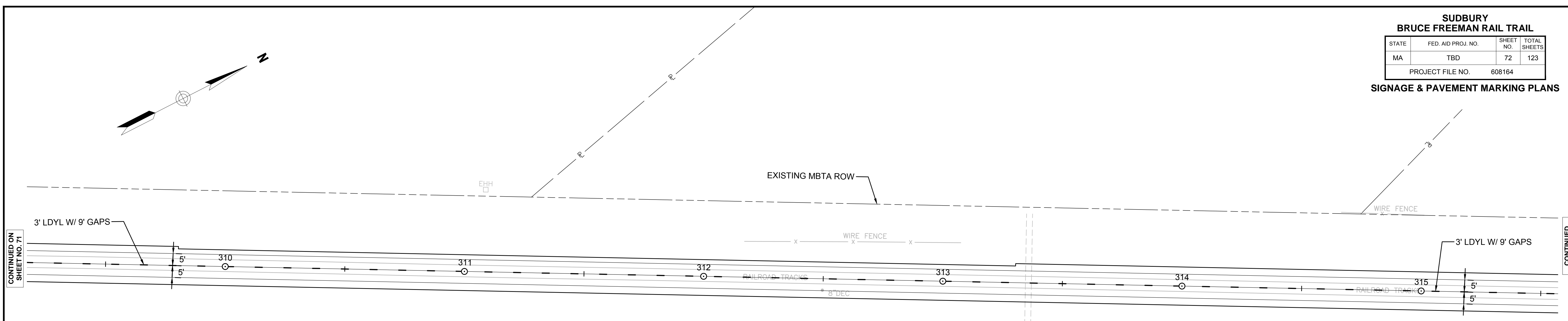
- NOTES:**
1. ALL SIGNAL HEADS SHALL BE RIGID MOUNTED.
 2. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH 5"± NON-LOUVERED BACKPLATES. ALL BACKPLATES SHALL CONTAIN A 3" WIDE YELLOW REFLECTIVE BORDER.
 3. ALL SIGNAL HEADS SHALL BE EQUIPPED WITH TUNNEL VISORS.
 4. ALL SIGNAL DISPLAYS SHALL BE EQUIPPED WITH L.E.D. MODULES.

EMERGENCY VEHICLE PRE-EMPTION OPERATION

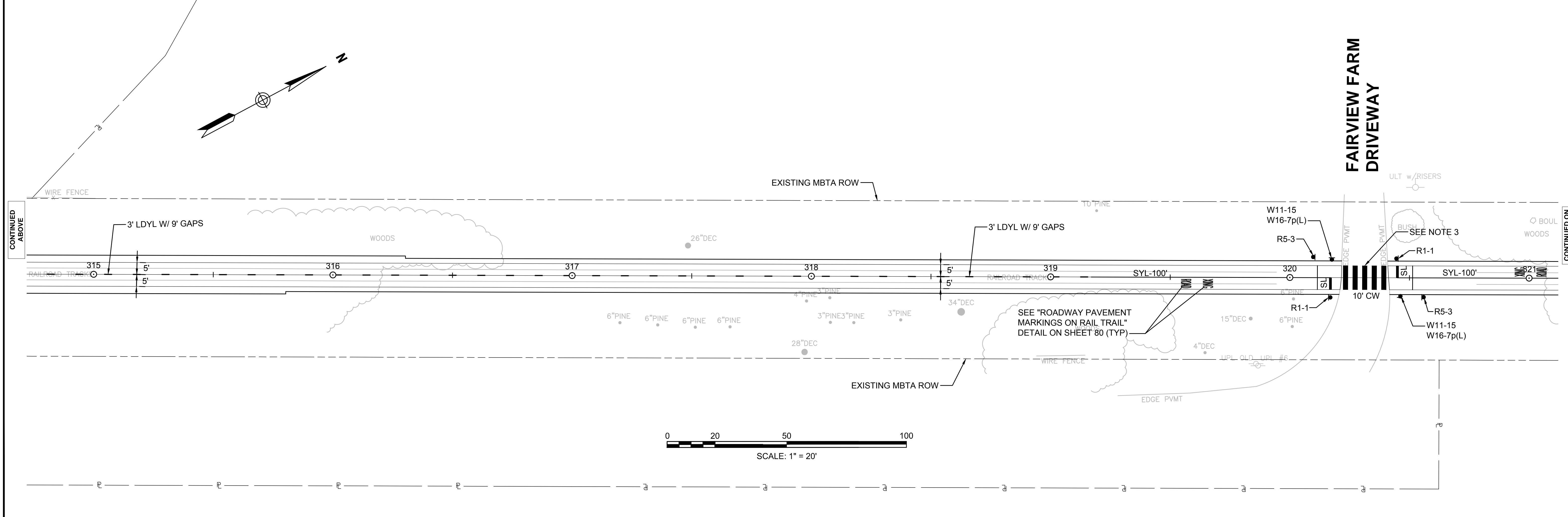
1. EMERGENCY VEHICLE PRE-EMPTION SIGNALS SHALL BE OPTICALLY TRANSMITTED BY OPTICAL EMITTERS MOUNTED IN EMERGENCY VEHICLES AND RECEIVED BY OPTICAL DETECTORS LOCATED AT THE CROSSING.
2. IN RESPONSE TO A PRE-EMPTION SIGNAL RECEIVED THE CONTROLLER SHALL HOLD OR ADVANCE TO AND HOLD IN EMERGENCY VEHICLE PRE-EMPTION (INTERVAL 1 - DARK) FOR A MINIMUM OF TEN (10) SECONDS OR UNTIL PRE-EMPTION SIGNAL CEASES.
3. MINIMUM PEDESTRIAN CLEARANCE SHALL BE PROVIDED ON PHASES THAT ARE TO BE TERMINATED BY PRE-EMPTION DEMAND.
4. PRE-EMPTION STROBE SHALL BE ILLUMINATED WHENEVER ANY EMERGENCY VEHICLE PRE-EMPTION GREEN IS ON.

CONTINUED ON SHEET NO. 70

CONTINUED ON SHEET NO. 72



- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON SHEET NO. 71

CONTINUED BELOW

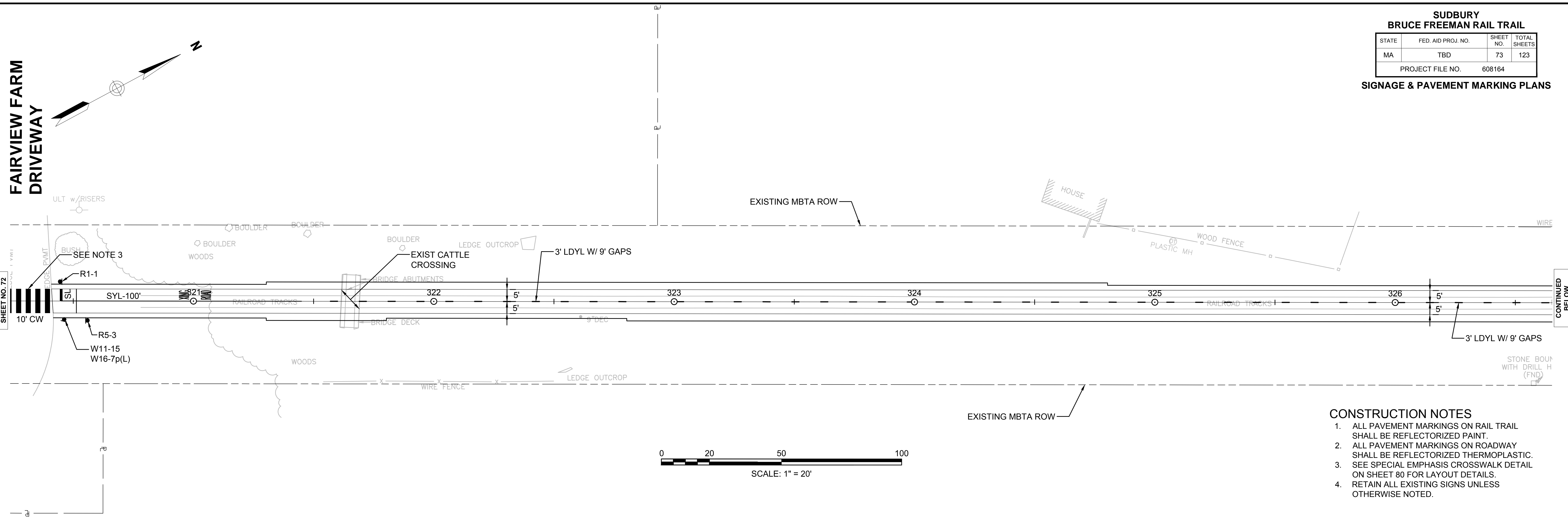
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CONTINUED ON SHEET NO. 73

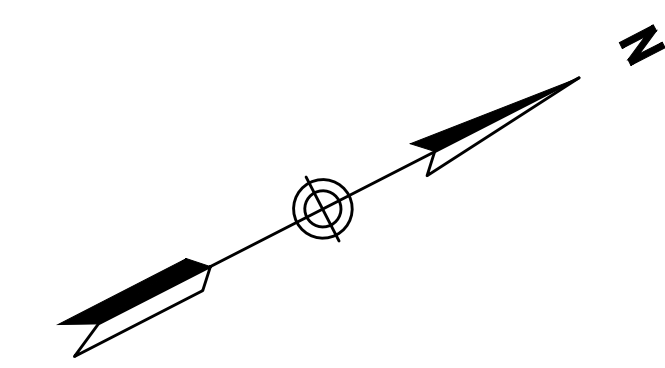
FAIRVIEW FARM DRIVEWAY

CONTINUED ON SHEET NO. 72

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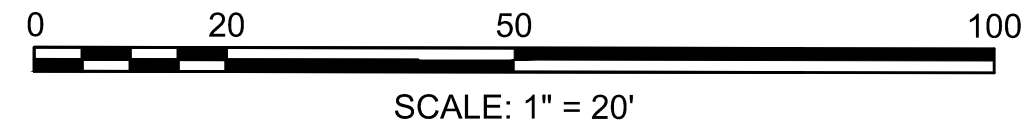
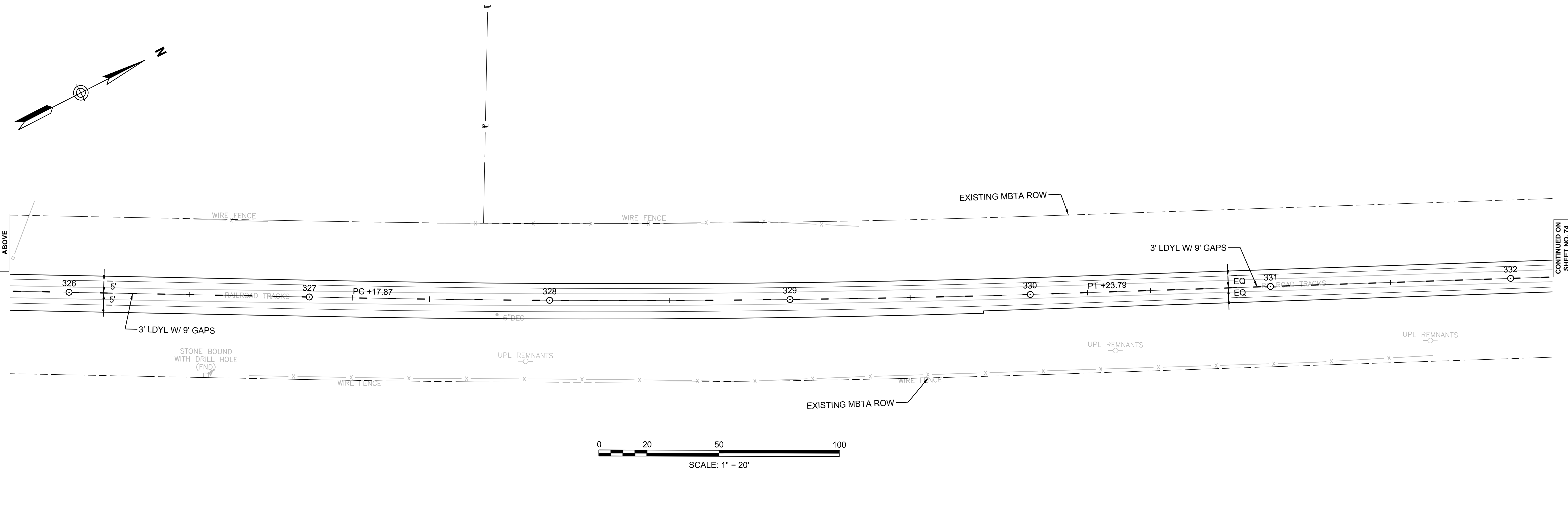


- CONSTRUCTION NOTES**
1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
 2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
 3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
 4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



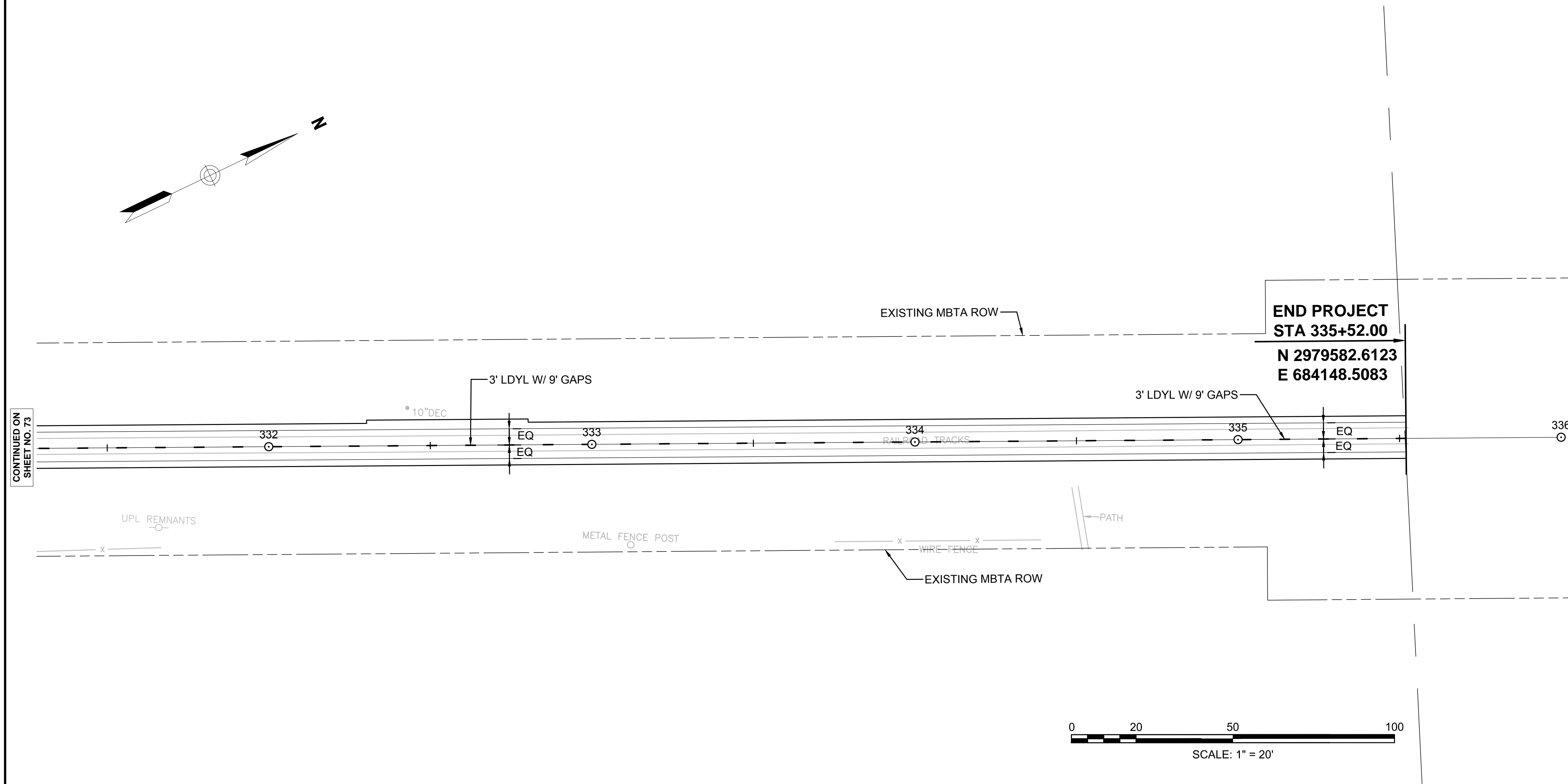
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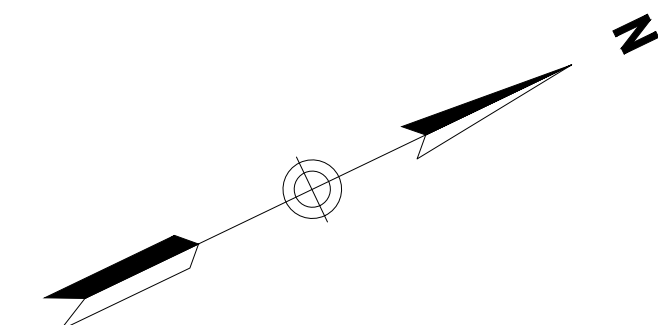




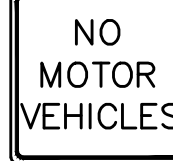
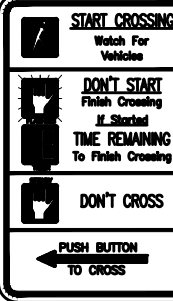





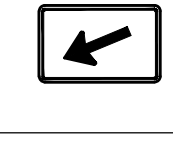


CONSTRUCTION NOTES

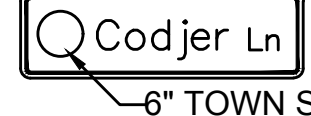






1. ALL PAVEMENT MARKINGS ON RAIL TRAIL SHALL BE REFLECTORIZED PAINT.
2. ALL PAVEMENT MARKINGS ON ROADWAY SHALL BE REFLECTORIZED THERMOPLASTIC.
3. SEE SPECIAL EMPHASIS CROSSWALK DETAIL ON SHEET 80 FOR LAYOUT DETAILS.
4. RETAIN ALL EXISTING SIGNS UNLESS OTHERWISE NOTED.



CONTINUED ON SHEET NO. 73



TRAFFIC SIGN SUMMARY														
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	BACK-GROUND	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.			LEGEND	BORDER				
R1-1	18"	18"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED				RED	WHITE	WHITE		1.86		
R1-1A	30"	30"						RED	WHITE	WHITE		5.18		
R5-3	24"	24"						WHITE	BLACK	BLACK		4.00		
R10-3e(L)	9"	15"						WHITE	WHITE/BLACK/ORANGE	BLACK		INCLUDED UNDER ITEMS 824.01 & 824.02		
MA-R10-23a	30"	36"		AS PER MASSDOT STANDARD				YELLOW/WHITE	BLACK	BLACK		7.50		
R10-25	12"	9"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED				WHITE	BLACK	BLACK		INCLUDED UNDER ITEMS 824.401, 824.402 & 824.403		
W11-15	30"	30"						YELLOW	BLACK	BLACK		6.25		
W11-15p	24"	18"						YELLOW	BLACK	BLACK		3.00		
W16-2ap	24"	12"						YELLOW	BLACK	BLACK		2.00		
W16-7p(L)	24"	12"						YELLOW	BLACK	BLACK		2.00		
W16-9p	24"	12"						YELLOW	BLACK	BLACK		2.00		
SP-1	9"	12"		1"C	1.5"			YELLOW	BLACK	BLACK		INCLUDED UNDER ITEMS 824.401, 824.402 & 824.403		
				1"C	1"									
				1"C	1"	N/A								
				1"C	1"									
				1"C	1"									
				1"C	1.5"									

TRAFFIC SIGN SUMMARY														
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			NUMBER OF SIGNS REQUIRED	BACK-GROUND	COLOR			POST SIZE AND NUMBER REQUIRED	UNIT AREA (S.F.)	AREA IN SQUARE FEET
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.			LEGEND	BORDER				
D3-1		12"		6"4.5"	3"	N/A		GREEN	WHITE	WHITE			INCLUDED UNDER ITEM 874	
D3-2		12"		6"4.5"	3"	N/A		GREEN	WHITE	WHITE			INCLUDED UNDER ITEM 874	
D3-3		12"		6"4.5"	3"	N/A		GREEN	WHITE	WHITE			INCLUDED UNDER ITEM 874	
D3-4		12"		6"4.5"	3"	N/A		GREEN	WHITE	WHITE			INCLUDED UNDER ITEM 874	
D3-5		12"		6"4.5"	3"	N/A		GREEN	WHITE	WHITE			INCLUDED UNDER ITEM 874	
D3-6		12"		6"4.5"	3"	N/A		GREEN	WHITE	WHITE			INCLUDED UNDER ITEM 874	
D3-7		12"		6"4.5"	3"	N/A		GREEN	WHITE	WHITE			INCLUDED UNDER ITEM 874	

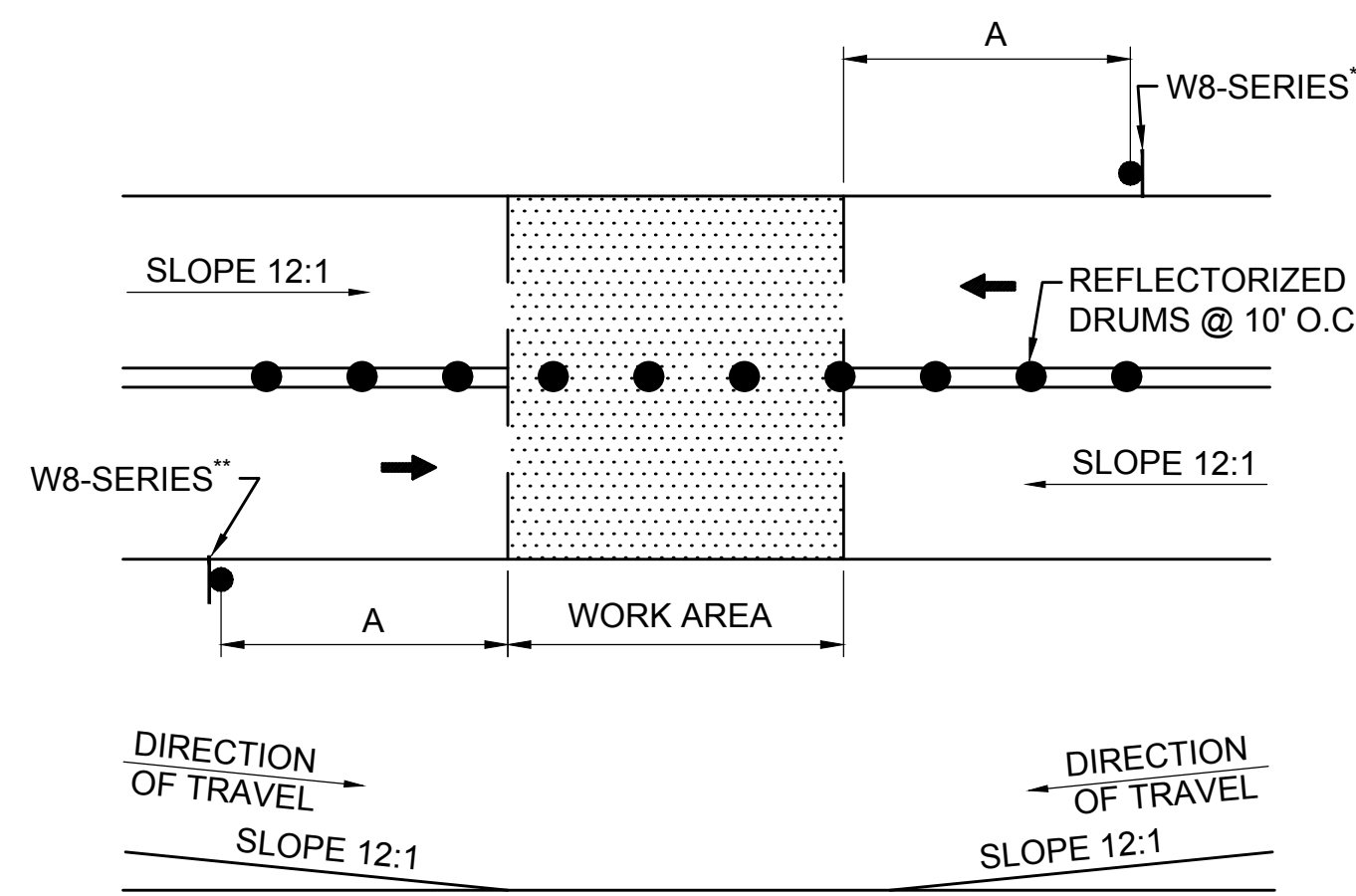
NOTES:
1. HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; AND THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED.

GENERAL NOTES

- ALL CONSTRUCTION SIGNING, TEMPORARY TRAFFIC CONTROL DEVICES, AND ROADSIDE ELEMENTS SHALL CONFORM WITH THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD) AS AMENDED, THE MASSDOT STANDARD DETAILS AND DRAWINGS FOR THE DEVELOPMENT OF TEMPORARY TRAFFIC CONTROL PLANS, THE LATEST REVISIONS OF THE AMERICAN ASSOCIATION OF STATE HIGHWAY AND TRANSPORTATION OFFICIALS, (AASHTO) ROADSIDE DESIGN GUIDE, AASHTO POLICY ON GEOMETRIC DESIGN OF HIGHWAYS AND STREETS, AND NATIONAL COOPERATIVE HIGHWAY RESEARCH PROGRAM (NCHRP) REPORT 350 OR THE AASHTO MANUAL FOR ASSESSING SAFETY HARDWARE (MASH).
- ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MASSACHUSETTS ARCHITECTURAL ACCESS BOARD (MAAB) AND AMERICANS WITH DISABILITIES ACT ACCESSIBILITY GUIDELINES (ADAAG) AND PUBLIC RIGHTS-OF WAY ACCESSIBILITY GUIDELINES (PROWAG).
- ALL DRUMS OUTSIDE TAPERS SHALL BE SET AT 20' ON CENTER MAX. UNLESS OTHERWISE NOTED OR ADJUSTED BY THE ENGINEER.
- ALL DRUMS SHALL BE APPROXIMATELY PLACED AND MOVED AS NECESSARY TO MAINTAIN ADEQUATE ABUTTER ACCESS AT ALL TIMES. WORK MAY REQUIRE ADDITIONAL SIGNS, DRUMS AND OTHER TRAFFIC CONTROL DEVICES, GRADING AND TEMPORARY PAVEMENT FOR PASSAGE OF PEDESTRIAN, VEHICULAR AND EMERGENCY TRAFFIC THROUGH THE WORK AREAS, BOTH DURING AND AFTER WORKING HOURS, TO MAINTAIN SUCH ACCESS.
- THE FIRST 10 DRUMS ON TAPERS SHALL BE REFLECTORIZED DRUMS WITH SEQUENTIAL FLASHING WARNING LIGHTS.
- REFLECTORIZED CONES SHALL BE A MINIMUM OF 36 INCHES IN HEIGHT.
- CONES MAY BE USED IN LIEU OF DRUMS OUTSIDE OF TAPER AREAS.
- THE CONTRACTOR SHALL NOTIFY EACH ABUTTER AT LEAST 24 HOURS IN ADVANCE OF THE START OF ANY WORK THAT WILL REQUIRE THE TEMPORARY CLOSURE OR RESTRICTION OF ACCESS.
- NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY ON STATE RECOGNIZED HOLIDAYS UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- FOR RESTORATIVE WORK ON LOCAL ROADWAYS, A MINIMUM OF ONE LANE OF TRAFFIC IN EACH DIRECTION ON TWO WAY STREETS SHALL BE MAINTAINED AT ALL TIMES, EXCEPT THAT DURING WORKING HOURS, TRAFFIC MAY BE REDUCED TO ONE LANE UNDER POLICE CONTROL FOR SHORT TIME PERIODS WHEN REQUIRED FOR THE WORK, AS SHOWN UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- FOR DROP-OFFS 4" OR LESS WITHIN THE CLEAR ZONE: CONDITION MAY BE MITIGATED WITH W8-9 (LOW SHOULDER) SIGN OR TEMPORARY CHANNELIZATION DEVICES. FOR DROP-OFFS GREATER THAN 4" BUT NO MORE THAN 12", DETERMINE WHETHER IT IS MORE COST EFFECTIVE TO INSTALL BOTH TEMPORARY CHANNELIZATION DEVICES AND A 1V:4H (MIN) TO 1V:6H (DESIRED) WEDGE OR TO SHIELD IT. FOR DROP-OFFS GREATER THAN 12" BUT NO MORE THAN 24", DETERMINE WHETHER IT IS MORE COST EFFECTIVE TO MAINTAIN AN ADDITIONAL 5' OF SHOULDER WIDTH AND INSTALL BOTH TEMPORARY CHANNELIZATION DEVICES AND A 1V:6H (DESIRE) WEDGE OR TO SHIELD IT. FOR DROP-OFFS 24" OR GREATER USE BARRIER IN ACCORDANCE WITH MASSDOT WORK ZONE POSITIVE PROTECTION GUIDELINES.
- CONTRACTOR SHALL STAGE WORK SUCH THAT A DROP-OFF OF NO MORE THAN 12" AT THE END OF EACH WORK DAY EXISTS WITHIN THE CLEAR ZONE AT ANY TIME AND ENSURE DROP-OFF IS MITIGATED WITHOUT BARRIER PER NOTE 11.
- CONSTRUCTION CLEAR ZONE SHALL BE IN ACCORDANCE WITH MASSDOT BOSTON TRAFFIC GUIDELINES AS FOLLOWS:
4' IF POSTED SPEED IS LESS THAN 35 MPH
8' IF POSTED SPEED IS 35 MPH
15' IF POSTED SPEED IS 40 MPH
- 11' MINIMUM LANE WIDTHS SHALL BE MAINTAINED UNLESS OTHERWISE NOTED.
- NON-ESSENTIAL TRAFFIC CONTROL DEVICES AND SIGNS SHALL BE COVERED OR REMOVED DURING NON-WORKING HOURS WHEN NOT IN USE.
- SIGNS INSTALLED ON PORTABLE STANDS REQUIRE 12 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS INSTALLED ON PORTABLE STANDS PLACED AMONG CHANNELIZATION DEVICES REQUIRE A 36 INCH MINIMUM MOUNTING HEIGHT FROM THE ROADWAY SURFACE TO THE BOTTOM OF THE SIGN.
- SIGNS MOUNTED ON P5 POSTS REQUIRE A MINIMUM 84 INCH MOUNTING HEIGHT FROM THE ROADWAY OR SIDEWALK SURFACE TO THE BOTTOM OF THE SIGN.
- ALL SIGNS SHALL BE MOUNTED ON THEIR OWN NCHRP 350 AND/OR MASH CRASH TESTED SIGN SUPPORTS AND INSTALLED IN ACCORDANCE WITH THE MUTCD.
- ADVISORY SPEED PLAQUES (W13-1p(XX)) SHALL BE USED AS SHOWN AND AS REQUESTED BY THE ENGINEER. POSTED ADVISORY SPEED SHALL BE AS APPROVED BY THE APPROPRIATE AGENCY WITH JURISDICTION OVER THE ROADWAY ON WHICH THE SIGN WILL BE MOUNTED.
- MA-W20-7b SIGNS SHALL BE REPLACED BY W20-7 SIGNS WHEN FLAGGERS ARE USED IN LIEU OF POLICE OFFICER DETAILS.
- CONTRACTOR SHALL SECURE WORK AREAS TO PREVENT UNAUTHORIZED ACCESS AT ALL TIMES.
- THERE IS NO DESIGNATED BICYCLE LANE ON THE ROADWAY WITHIN THE PROJECT LIMITS. BICYCLES ARE EXPECTED TO SHARE THE ROAD WITH GENERAL VEHICULAR TRAFFIC.
- WORK HOURS SHALL BE 7AM TO 3PM MONDAY THRU FRIDAY UNLESS OTHERWISE APPROVED BY MASSDOT AND THE TOWN. NO WORK SHALL OCCUR WITHIN THE PUBLIC WAY DURING PEAK PERIODS (MONDAY THRU FRIDAY, 7AM-9AM AND 4PM-6PM) UNLESS OTHERWISE APPROVED IN WRITING BY THE TOWN OF SUDBURY. NO LANE CLOSURES SHALL BE PERMITTED ON HUDSON ROAD (ROUTE 27) OR NORTH ROAD (ROUTE 117) EXCEPT DURING OVERNIGHT HOURS (8PM TO 6AM). NO WORK SHALL BE PERMITTED ON SATURDAY OR SUNDAY WITHOUT PRIOR WRITTEN APPROVAL FROM THE TOWN OF SUDBURY.
- ILLUMINATION REQUIRED FOR NIGHTTIME WORK APPROVED BY THE TOWN OF SUDBURY SHALL BE DIFFUSED LIGHTING AND IN ACCORDANCE WITH MASSDOT STANDARDS.
- CONTRACTOR SHALL PROVIDE PORTABLE CHANGE MESSAGE SIGNS (PCMS) A MINIMUM OF 14 DAYS PRIOR TO START OF CONSTRUCTION AT EACH ROADWAY CROSSING. PCMS LOCATION TO BE DETERMINED AT 75% SUBMITTAL.

SUGGESTED TEMPORARY TRAFFIC CONTROL SETUP APPLICATION

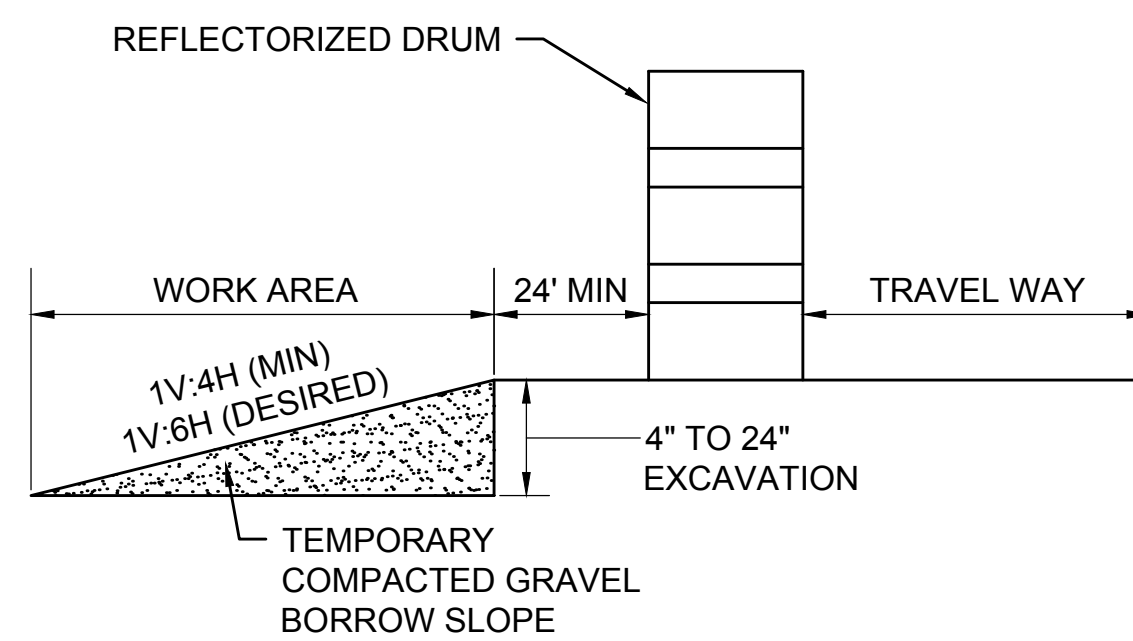
LOCATION	TEMPORARY TRAFFIC CONTROL SETUPS
SUDBURY LUMBER DWY	PRIVATE WAY: CONTRACTOR TO COORDINATE WITH PROPERTY OWNER
71 UNION AVE DWY	PRIVATE WAY: CONTRACTOR TO COORDINATE WITH PROPERTY OWNER
CODJER LANE	TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC
OLD LANCASTER ROAD	TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC AND PEDESTRIAN BYPASS
HUDSON ROAD (RTE 27)	ALL SETUPS SHOWN ON SHEETS 77 AND 78 MAY BE USED ON HUDSON ROAD AND PEAKHAM ROAD
MORSE ROAD	TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC AND PEDESTRIAN BYPASS
HAYNES ROAD	TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC AND PEDESTRIAN BYPASS
PANTRY ROAD	TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC AND PEDESTRIAN BYPASS
NORTH ROAD (RTE 117)	TYPICAL TWO-WAY STREET LANE SHIFT, TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC, AND PEDESTRIAN BYPASS
FAIRVIEW FARMS DWY	PRIVATE WAY: CONTRACTOR TO COORDINATE WITH PROPERTY OWNER



- NOTES:**
- SQUARE OFF THE FULL WIDTH OF THE ROADWAY AT THE END OF WORK DAY
 - ** CONTRACTOR SHALL INSTALL W8-1, W8-3, OR W8-8 SIGN, AS APPROPRIATE, ON ALL ROADWAYS IN ADVANCE OF THE TRANSITION UNLESS OTHERWISE DIRECTED BY THE ENGINEER.

TEMPORARY PAVEMENT TRANSITION

SCALE: NTS



- NOTE:**
- CONTRACTOR SHALL INSTALL W8-9 SIGN ON ALL ROADWAYS 350 FT IN ADVANCE OF THE START OF DROP-OFF CONDITION.

TYPICAL ROADWAY DROP-OFF PROTECTION

SCALE: NTS

**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MA	TBD	76	123
PROJECT FILE NO.		608164	

**TEMPORARY TRAFFIC CONTROL PLANS
GENERAL NOTES AND LEGEND**

LEGEND

	FLAGGER
	POLICE OFFICER
	TRAFFIC SIGNAL
	REFLECTORIZED DRUM
	REFLECTORIZED DRUM WITH SEQUENTIAL FLASHING WARNING LIGHT (SEE NOTE 5)
	TEMPORARY CONSTRUCTION SIGN
	TRAFFIC CONE
	TYPE III BARRICADE
	PORTABLE CHANGEABLE MESSAGE SIGN (PCMS)
	WORK AREA (PUBLIC ACCESS RESTRICTED)
	TRAFFIC FLOW
	PEDESTRIAN ROUTE
	CONSTRUCTION FENCE
	PEDESTRIAN CHANNELIZATION DEVICE
NTS	NOT TO SCALE

ADVANCE SIGN SPACING

ROADWAY	DISTANCE BETWEEN SIGNS (FEET)			
	A	B	C	D
ALL ROADWAYS	350	150	350	350

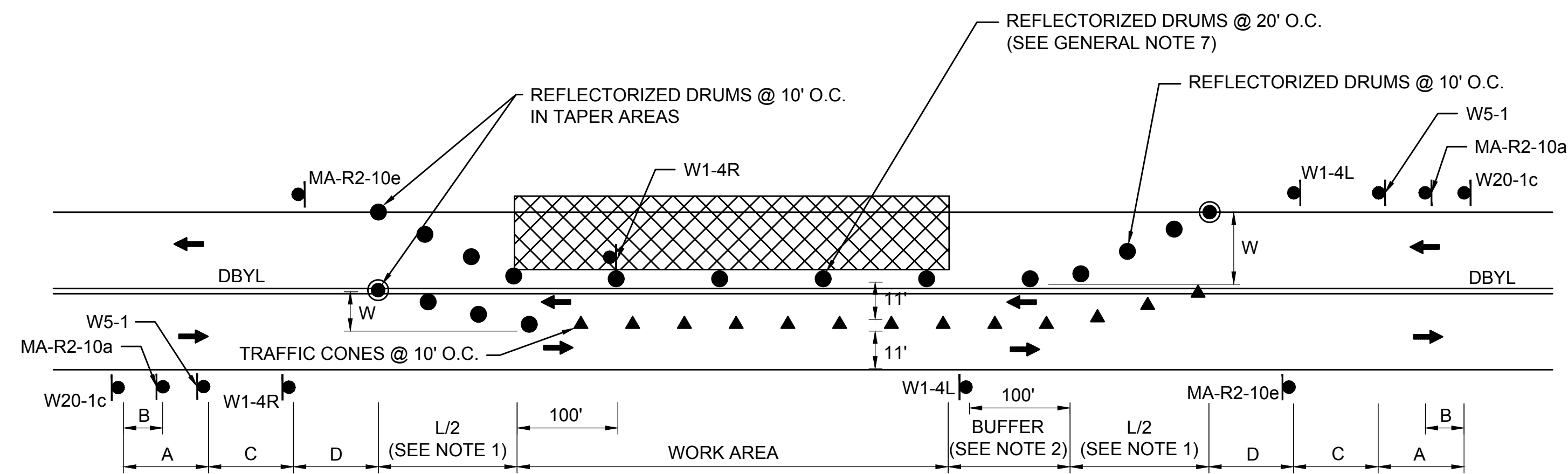
BUFFER SPACING

SPEED (MPH)	DISTANCE (FEET)
15	80
20	115
25	155
30	200
35	250
40	305
45	360

LANE TAPER LENGTH FORMULAS

L = TAPER LENGTH IN FEET
W = WIDTH OF ROADWAY TO BE SHIFTED OR REDIRECTED IN FEET
S = POSTED SPEED LIMIT IN MPH

POSTED SPEED	
40 MPH OR LESS	GREATER THAN 40 MPH
$L = \frac{WS^2}{60}$	L = WS

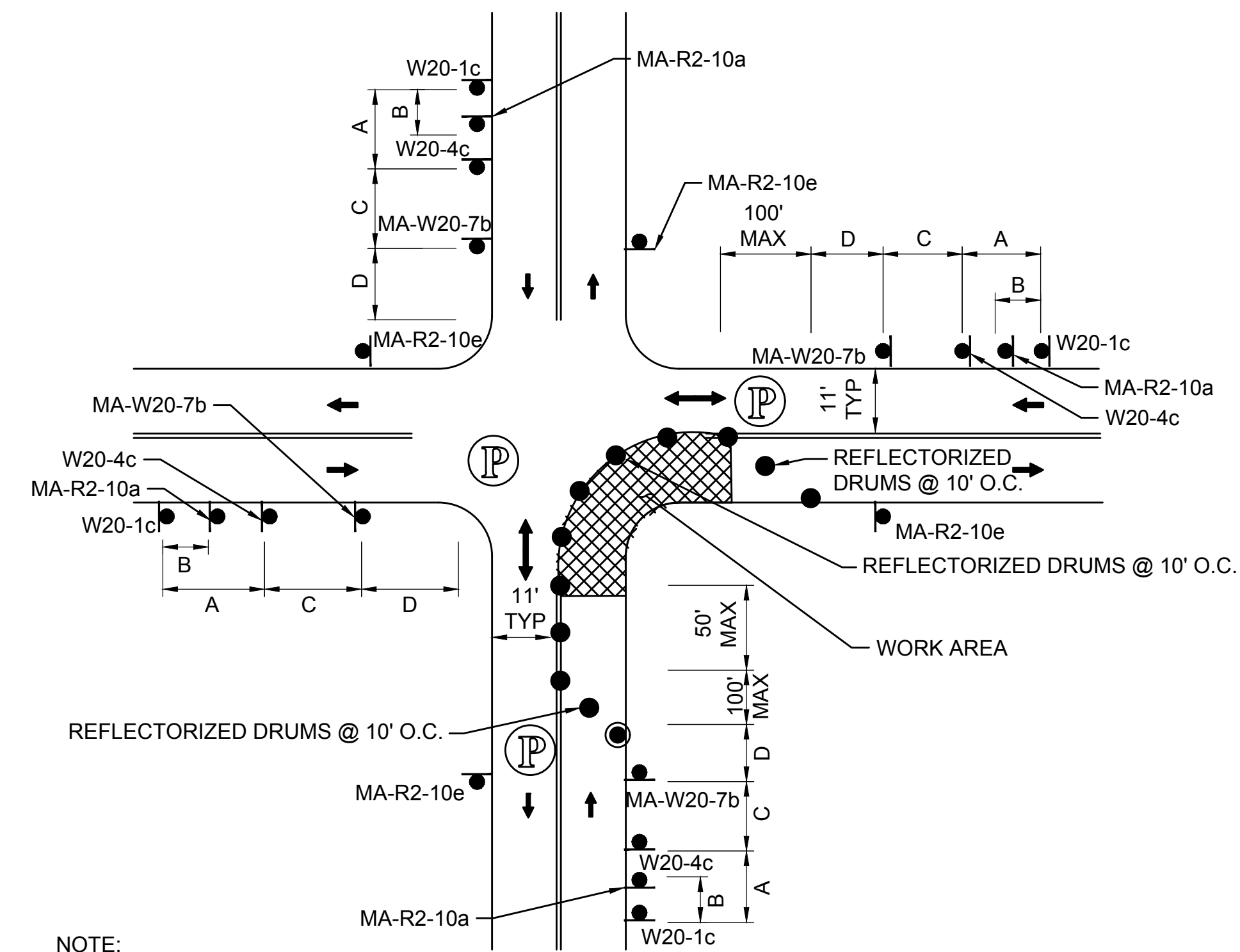


NOTES:

1. SEE TAPER LENGTH FORMULA ON TTCP GENERAL NOTES & LEGEND SHEET.
2. SEE BUFFER SPACING CHART ON TTCP GENERAL NOTES & LEGEND SHEET.
3. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.

TYPICAL TWO-WAY STREET LANE SHIFT

SCALE: NTS

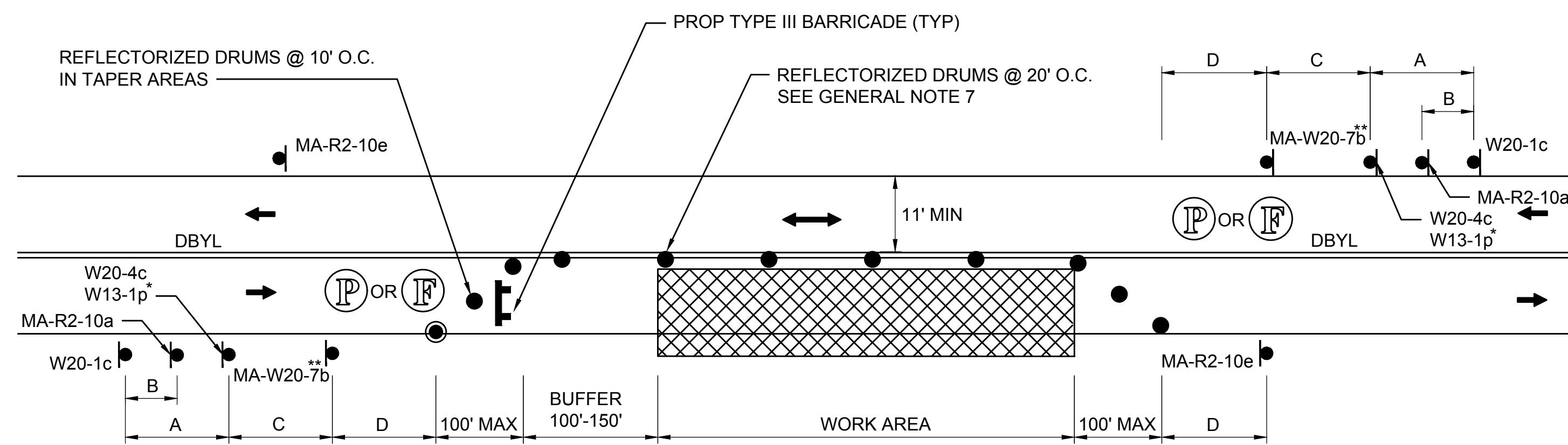


NOTE:

1. ADVANCE WARNING SIGN PLACEMENT TO BE ADJUSTED AS NECESSARY.

ONE LANE BI-DIRECTIONAL TRAFFIC AT INTERSECTIONS

SCALE: NTS



NOTES:

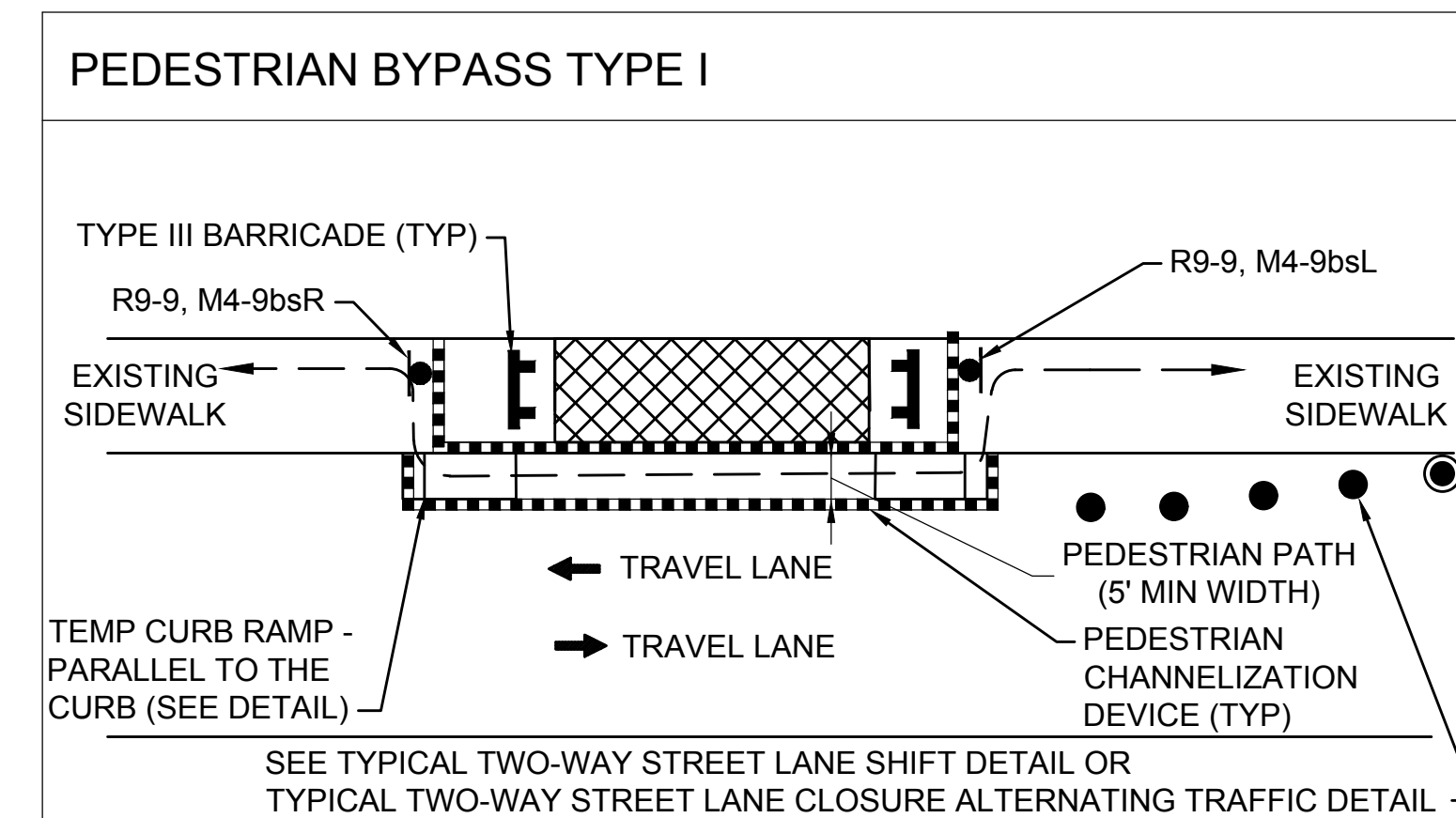
1. REFER TO ADVANCE SIGN SPACING TABLE ON TTCP GENERAL NOTES & LEGEND SHEET.
2. * SEE NOTE 20 ON TTCP GENERAL NOTES & LEGEND SHEET.
3. ** SEE NOTE 21 ON TTCP GENERAL NOTES & LEGEND SHEET.

TYPICAL TWO-WAY STREET LANE CLOSURE ALTERNATING TRAFFIC

SCALE: NTS

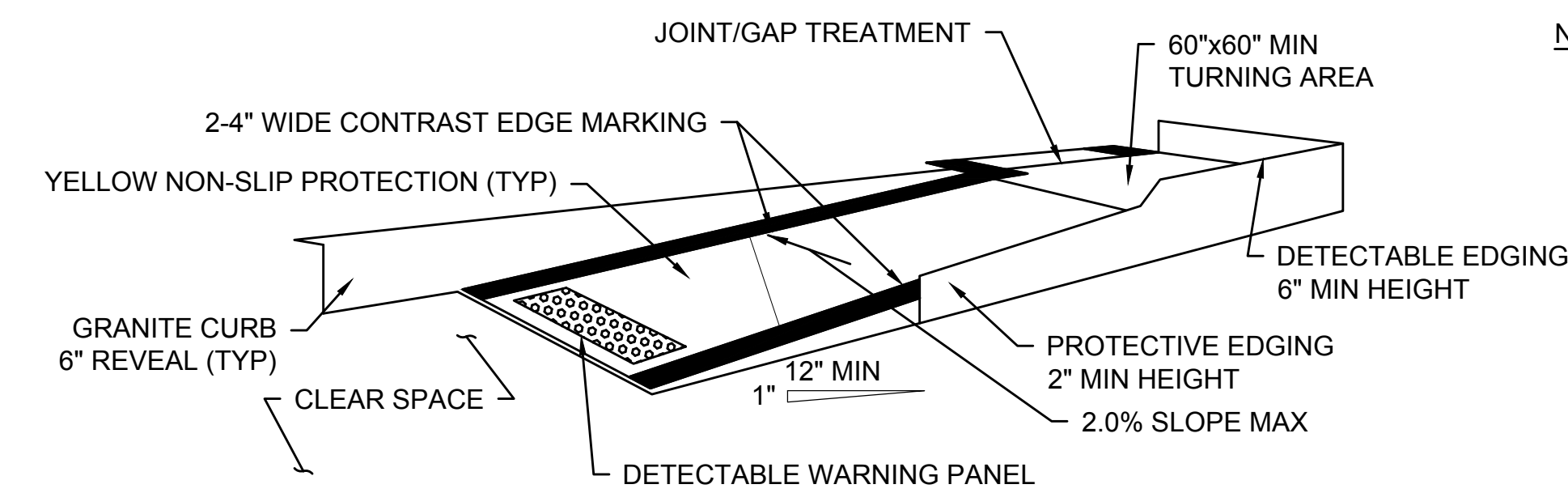
NOTES:

1. ADDITIONAL ADVANCE WARNING SIGNS MAY BE NECESSARY AS DETERMINED BY THE ENGINEER.
2. CONTROLS FOR PEDESTRIAN TRAFFIC ONLY ARE SHOWN. VEHICULAR TRAFFIC SHALL BE MAINTAINED AS SHOWN ELSEWHERE.
3. STREET LIGHTING SHOULD BE CONSIDERED WHEN LOCATING CONTROL DEVICES.
4. ← → INDICATES DIRECTION OF PEDESTRIAN TRAVEL.
5. PROPOSED TEMPORARY CROSSWALKS SHALL BE 12" WIDE SURFACE APPLIED TAPE OR REFLECTORIZED PAINT AS DIRECTED BY THE ENGINEER.
6. ALL TEMPORARY PEDESTRIAN PATHWAYS SHALL COMPLY FULLY WITH ALL REQUIREMENTS OF THE MUTCD AND ALL APPLICABLE MAAB AND ADAAG REQUIREMENTS.
7. CONTRACTOR SHALL MAINTAIN AS WIDE OF A PEDESTRIAN ACCESS AS POSSIBLE AT ALL TIMES. EXCEPT WHERE NECESSARY, THE CONTRACTOR MAY TEMPORARILY REDUCE PEDESTRIAN PATHWAYS TO 4 FEET IN WIDTH (EXCLUDING CURB) FOR NO MORE THAN 200 LINEAR FEET AT A TIME IN ACCORDANCE WITH ALL STANDARDS.
8. TEMPORARY WHEELCHAIR RAMPS SHALL BE CONSTRUCTED IN ACCORDANCE WITH MASSDOT, MAAB, AND ADAAG REQUIREMENTS.

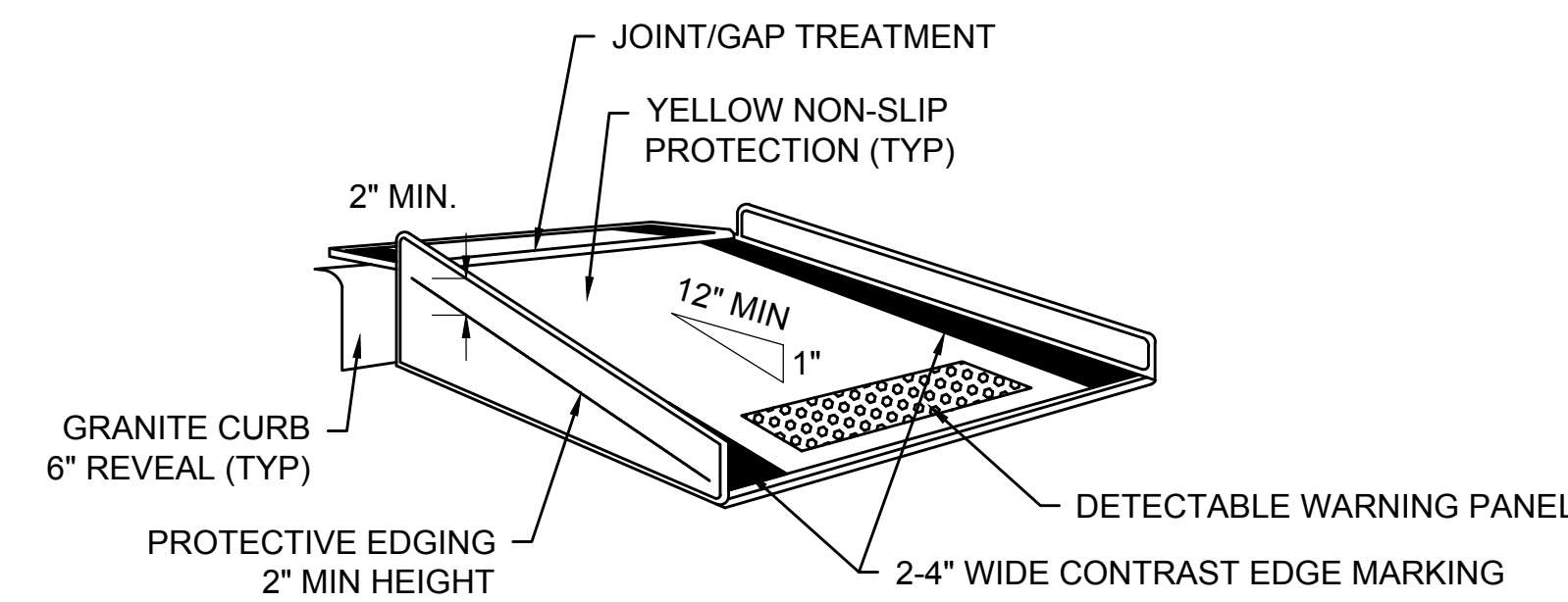


PEDESTRIAN BYPASS DETAIL

SCALE: NTS



TEMPORARY CURB RAMP-PARALLEL TO CURB



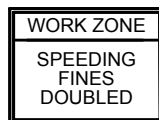
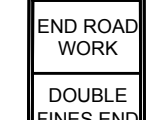







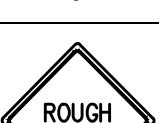

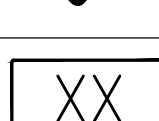

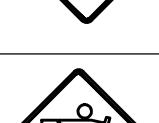

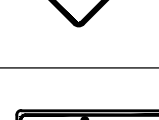

TEMPORARY CURB RAMP-PERPENDICULAR TO CURB

TEMPORARY CURB RAMPS

SCALE: NTS

NOTES:

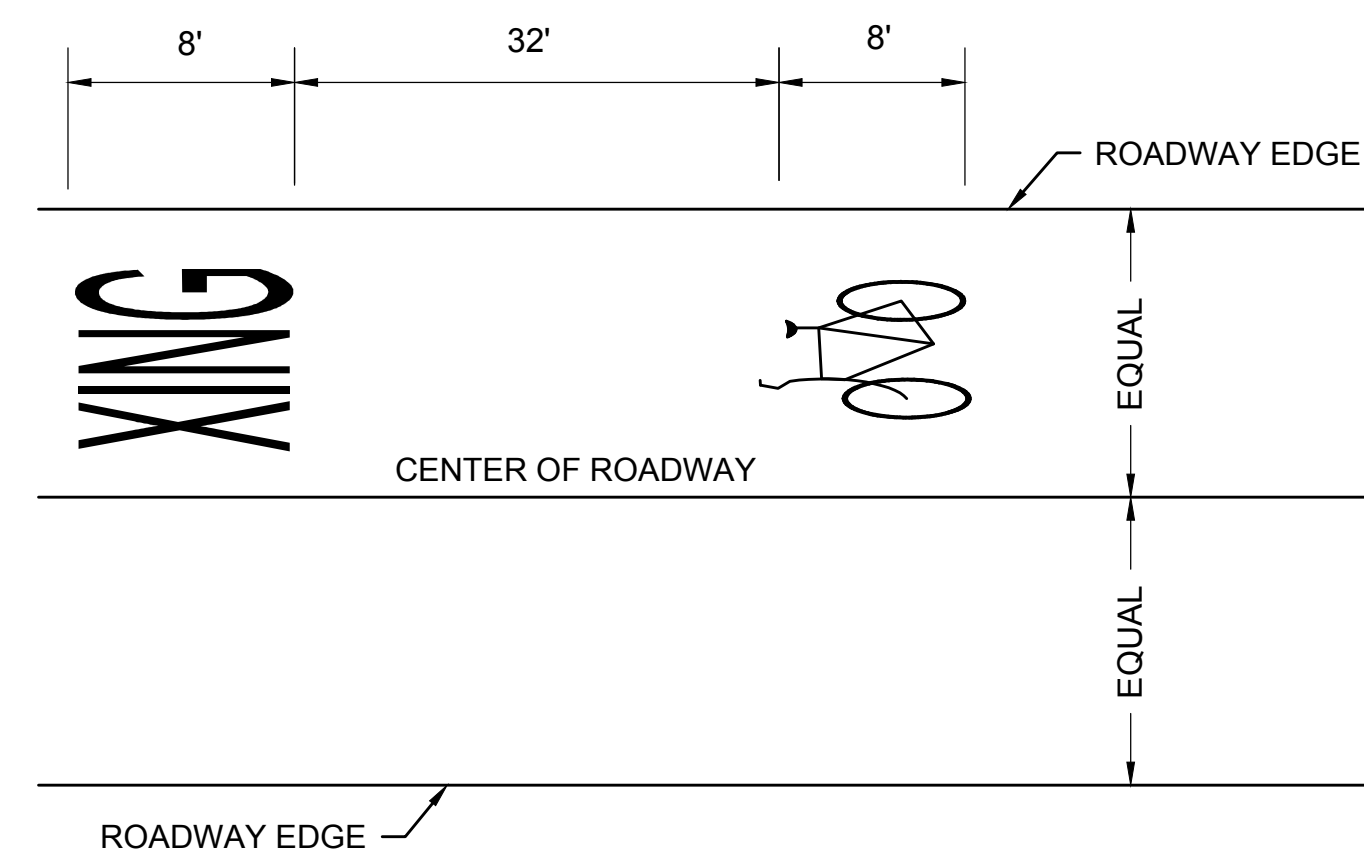
1. CURB RAMPS SHALL BE 60" MINIMUM WIDTH WITH A FIRM, STABLE AND NON-SLIP SURFACE.
2. PROTECTIVE EDGING WITH A 2" MINIMUM HEIGHT SHALL BE INSTALLED WHEN THE CURB RAMP OR LANDING PLATFORM HAS A VERTICAL DROP OF 6" OR GREATER OR HAS A SIDE APRON SLOPE STEEPER THAN 1:3 (33%). PROTECTIVE EDGING SHOULD BE CONSIDERED WHEN THE CURB RAMPS OR LANDING PLATFORMS HAVE A VERTICAL DROP OF 3" OR MORE.
3. DETECTABLE EDGING WITH 6" MINIMUM HEIGHT AND CONTRASTING COLOR SHALL BE INSTALLED ON ALL CURB RAMP LANDINGS WHERE THE WALKWAY CHANGES DIRECTION (TURNS).
4. THE CURB RAMP WALKWAY AND LANDING AREA SURFACE SHALL BE OF A SOLID CONTINUOUS CONTRASTING COLOR ABUTTING UP TO THE EXISTING SIDEWALK.
5. CURB RAMPS AND LANDINGS SHOULD HAVE A 1:50 (2%) MAX CROSS-SLOPE.
6. CLEAR SPACE OF 48"x48" MINIMUM SHALL BE PROVIDED ABOVE AND BELOW THE CURB RAMP.
7. WATER FLOW IN THE GUTTER SYSTEM SHALL HAVE MINIMAL RESTRICTION.
8. LATERAL JOINTS OR GAPS BETWEEN SURFACES SHALL BE LESS THAN 0.5" WIDTH.
9. CHANGES BETWEEN SURFACE HEIGHTS SHOULD NOT EXCEED 0.5" LATERAL EDGES SHOULD BE VERTICAL UP TO 0.25" HIGH, AND BEVELED AT 1:2 BETWEEN 0.25" AND 0.5" HEIGHT.
10. IF A TEMPORARY PEDESTRIAN RAMP LEADS TO A CROSSWALK, THEN A DETECTABLE WARNING PAD MUST BE ADHERED TO THE BASE OF THE RAMP. IF IT LEADS TO A PROTECTED PEDESTRIAN BYPASS THAT DOES NOT CONFLICT WITH VEHICULAR TRAFFIC, THEN A PAD SHALL NOT BE INSTALLED ON THE RAMP.

TEMPORARY TRAFFIC CONTROL SIGN SUMMARY									
IDENTIFICATION NUMBER	SIZE OF SIGN		TEXT	TEXT DIMENSIONS (INCHES)			COLOR		
	WIDTH	HEIGHT		LETTER HEIGHT	VERTICAL SPACING	ARROW RTE. MKR.	BACK-GROUND	LEGEND	BORDER
MA-R2-10a	48"	36"		AS PER MASSDOT STANDARD			FLUOR-ESCENT ORANGE	BLACK	BLACK
MA-R2-10e	36"	48"		↓			WHITE FLUOR-ESCENT ORANGE	BLACK	BLACK
R9-9	24"	12"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			WHITE	BLACK	BLACK
W20-1c	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W1-4L	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W1-4R	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W5-1	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W8-1	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W8-3	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W8-8	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W8-9	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W13-1p(xx)	24"	24"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W20-4c	36"	36"					FLUOR-ESCENT ORANGE	BLACK	BLACK
W20-7	36"	36"				↓	FLUOR-ESCENT ORANGE	BLACK	BLACK
MA-W20-7b	36"	36"		AS PER MASSDOT STANDARD			FLUOR-ESCENT ORANGE	BLACK	BLACK
M4-9bsL	30"	24"		SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION"; AS AMENDED			FLUOR-ESCENT ORANGE	BLACK	BLACK
M4-9bsR	30"	24"		↓			FLUOR-ESCENT ORANGE	BLACK	BLACK

- NOTES:**
- HIGH INTENSITY REFLECTIVE SHEETING SHALL BE USED FOR ALL SIGNS. SEE FHWA "STANDARD HIGHWAY SIGNS, 2004 EDITION" FOR TEXT DIMENSIONS, AS AMENDED; THE 1977 MASSHIGHWAY DEPARTMENT CONSTRUCTION AND TRAFFIC STANDARD DETAILS, AS AMENDED, FOR SIGNS AND SUPPORTS; THE MASSHIGHWAY DEPARTMENT SIGN LISTINGS 1993 EDITION, AS AMENDED; THE 2009 MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR MOUNTING REQUIREMENTS; AND THE 2017 MASSDOT STANDARD SIGNS BOOK, AS AMENDED.
 - ALL SIGNS SHOWN GRAPHICALLY FOR INFORMATION ONLY. SIGN VENDOR SHALL FABRICATE ALL SIGNS IN ACCORDANCE WITH THE APPLICABLE STANDARDS.

PROPOSED PLANTINGS

KEY	BOTANICAL NAME	COMMON NAME	SIZE
SHADE TREES			
AR	ACER RUBRUM 'OCTOBER GLORY'	OCTOBER GLORY MAPLE	2-2 1/2" CAL
ZS	ZELKOVA SERRATA 'GREEN VASE'	GREEN VASE ZELKOVA	2-2 1/2" CAL
QR	QUERCUS RUBRA	NORTHERN RED OAK	2-2 1/2" CAL
UA	ULMUS AMERICANA 'VALLEY FORGE'	AMERICAN ELM	2-2 1/2" CAL
EVERGREEN TREES			
CT	THUJA OCCIDENTALIS	EASTERN WHITE CEDAR	5-6' HT
PR	PINUS RESINOSA	RED PINE	5-6' HT
PS	PINUS STROBUS	EASTERN WHITE PINE	5-6' HT
SHRUBS			
IG	ILEX GLABRA	INKBERRY	2-3' HT
ARA	ARONIA ARBUTIFOLIA	RED CHOKEBERRY	3-4' HT B&B
CLA	CLETHRA ALNIFOLIA	SUMMERSWEET	18-24" HT
ILX	ILEX VERTICILLATA	WINTERBERRY	18-24" HT
VAC	VACCINIUM CORYMBOSUM	HIGHBUSH BLUEBERRY	18-24" HT



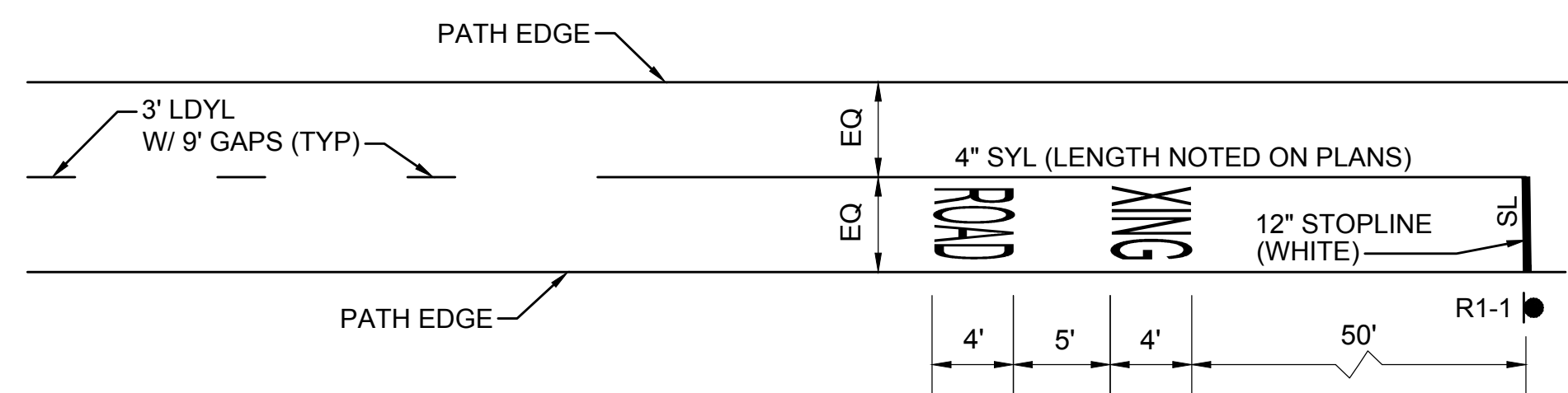
- NOTES:**
- PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - PAVEMENT MARKINGS SHALL BE REFLECTORIZED THERMOPLASTIC.

BICYCLE PAVEMENT MARKINGS IN ROADWAY

SCALE: N.T.S.

PROPOSED PLANTING SCHEDULE

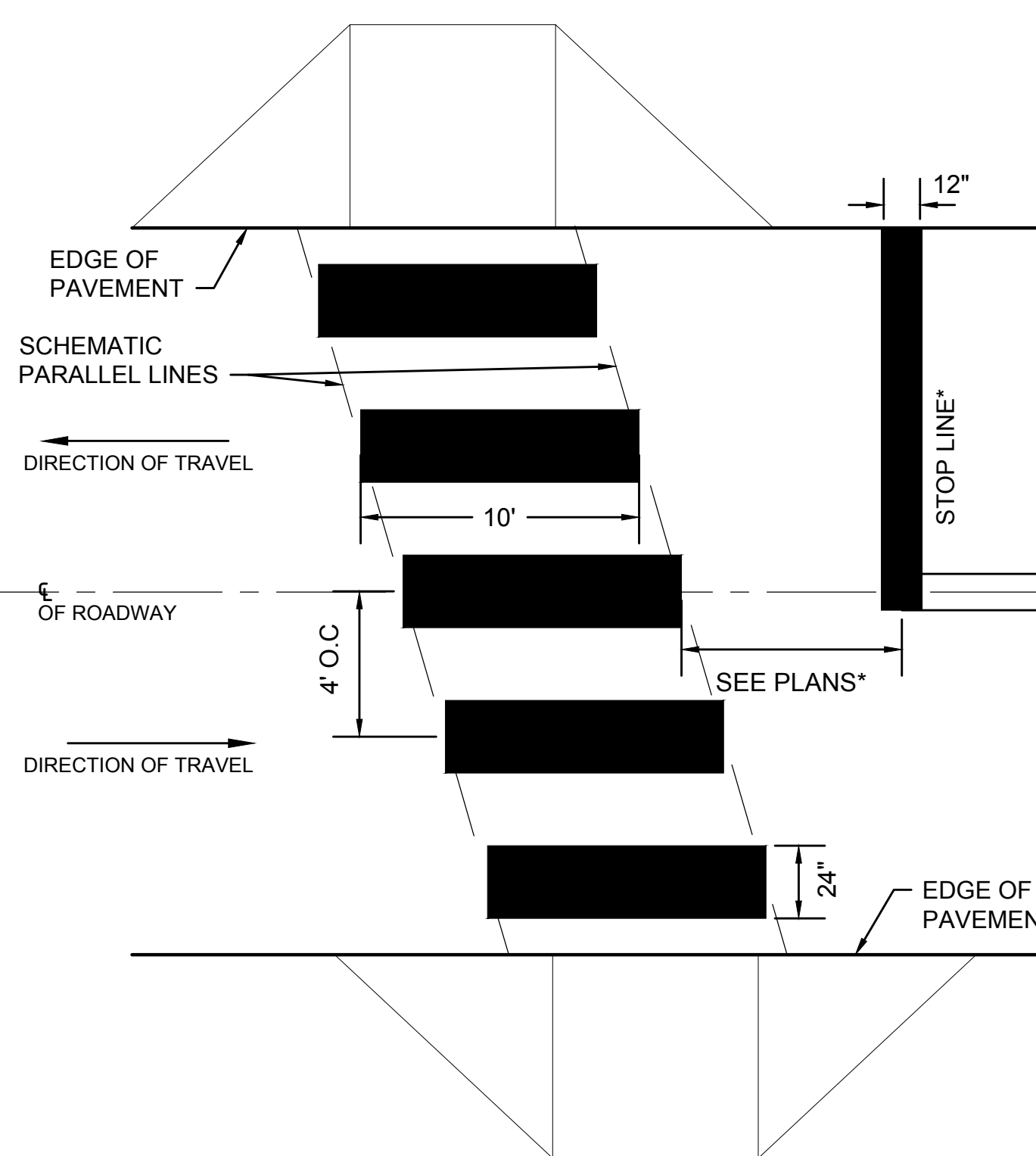
SCALE: N.T.S.



- NOTES:**
- PAVEMENT MARKINGS AS PER MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES (MUTCD).
 - PAVEMENT MARKINGS SHALL BE REFLECTIVE PAINT.

ROADWAY PAVEMENT MARKINGS ON RAIL TRAIL

SCALE: N.T.S.



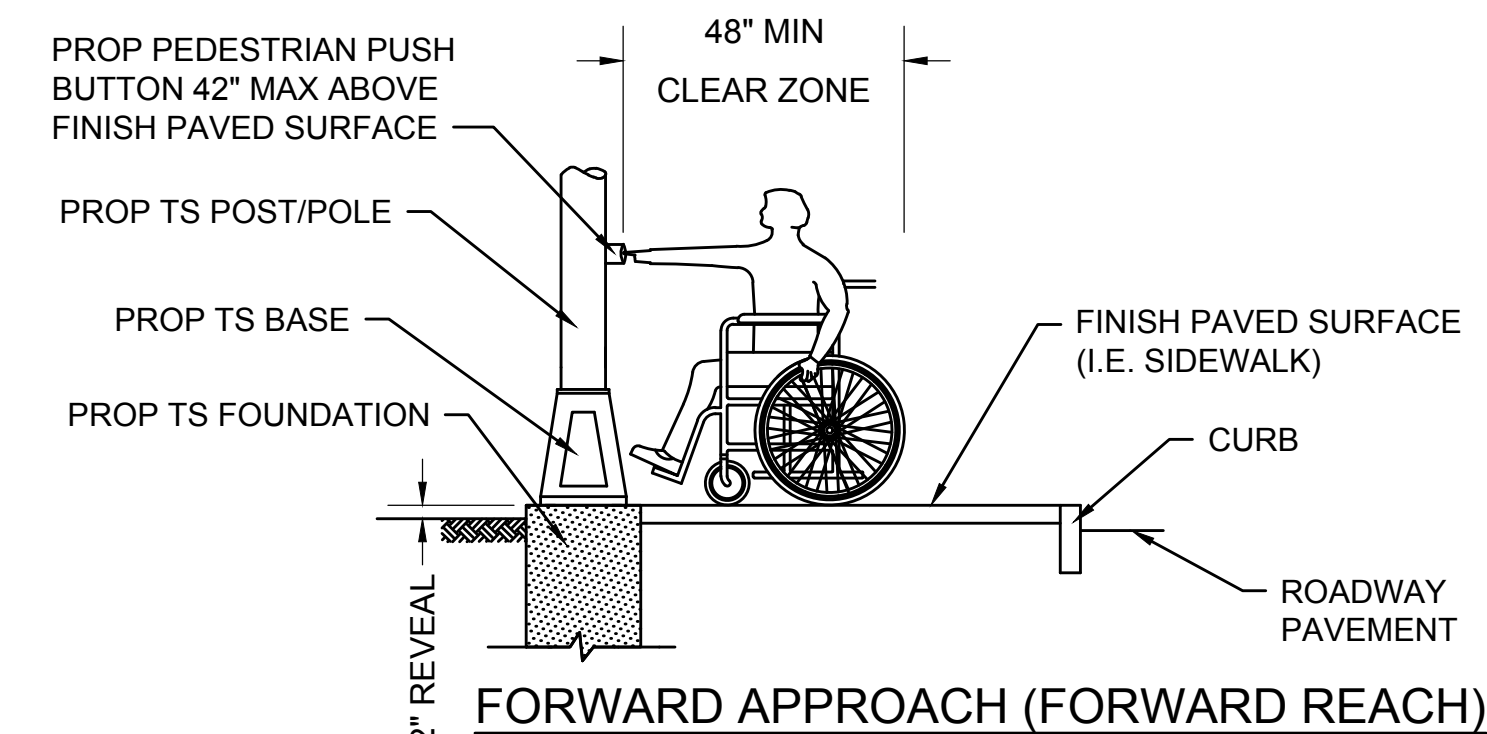
- NOTES:**
- ALL EXISTING CROSSWALK MARKINGS SHALL BE FULLY ERADICATED BY APPROVED METHOD PRIOR TO THE APPLICATION OF PROPOSED MARKINGS.
 - ALL 12" THERMOPLASTIC LINES SHALL BE APPLIED IN ONE APPLICATION, NO COMBINATION OF LINES (TWO - 6" LINES) WILL BE ACCEPTED. ALL 24" THERMOPLASTIC LINES SHALL BE APPLIED IN NO MORE THAN TWO APPLICATIONS, NO COMBINATION OF GREATER THAN TWO (i.e. THREE 8" LINES) WILL BE APPLIED.
 - LAYOUT OF CROSSWALKS SHALL BE ORIENTATED IN THE DIRECTION OF TRAVEL AND LOCATED OUTSIDE OF THE WHEEL PATH OF VEHICLES. LAYOUT SHALL BE APPROVED BY THE ENGINEER PRIOR TO APPLICATION OF THERMOPLASTIC.
 - ALL CROSSWALKS INSTALLED SHALL CONFORM TO THE RELEVANT PROVISIONS OF THE MASSACHUSETTS HIGHWAY DEPARTMENT "STANDARD SPECIFICATION FOR HIGHWAY AND BRIDGES" DATED 1988, SECTION 860 FOR REFLECTORIZED LINE (THERMO-PLASTIC) & MATERIAL M7.01.20, LATEST REVISIONS.
 - * WHERE NOTED ON THE PLANS.

SPECIAL EMPHASIS CROSSWALK

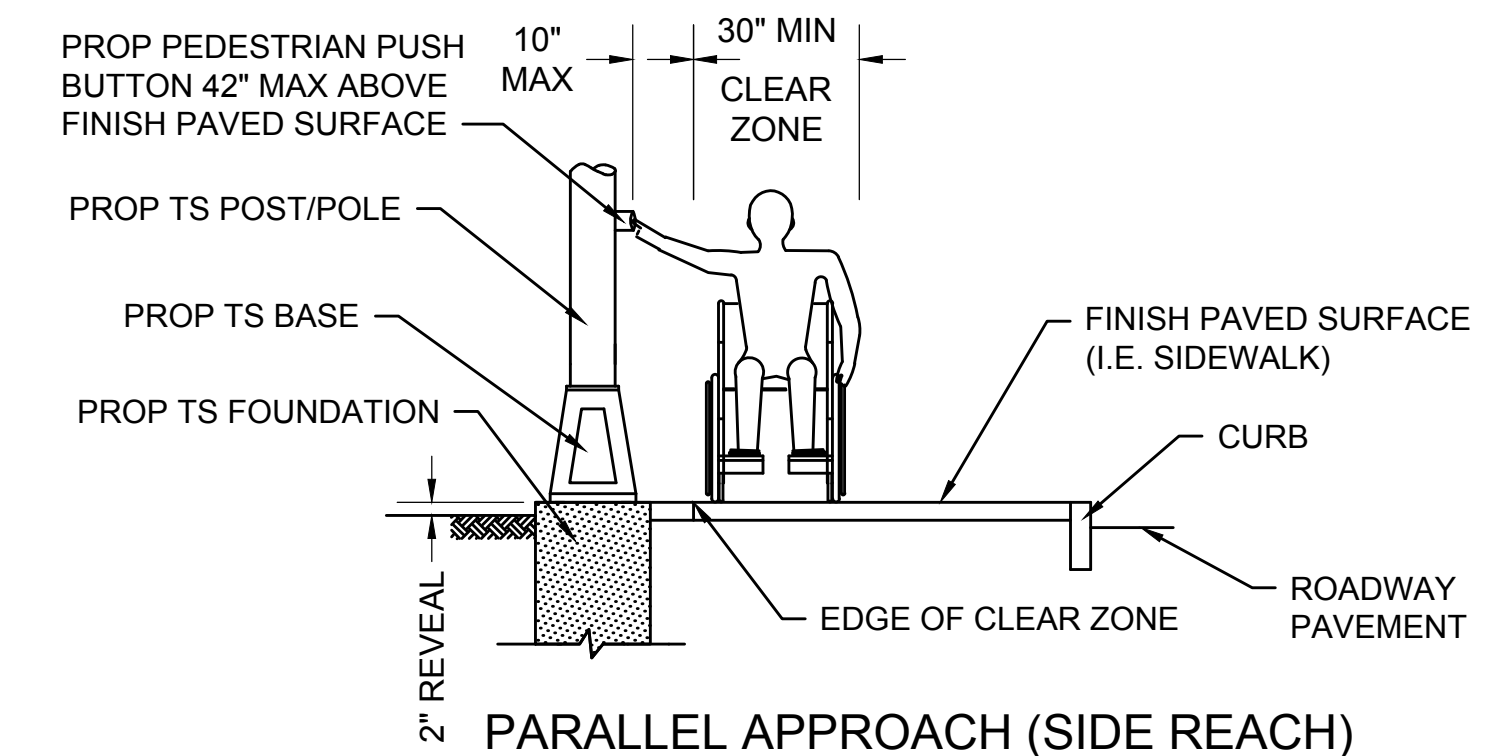
SCALE: N.T.S.

DWG: PM-28

DATE: MAY 2017



- NOTE:**
A CLEAR GROUND SPACE SHALL CONSIST OF A STABLE AND FIRM AREA, COMPLYING WITH 521 CMR 6.5 (FORWARD REACH) OR 521 CMR 6.6 (SIDE REACH) AND SHALL BE PROVIDED AT EACH OF THE PEDESTRIAN PUSH BUTTONS.
- WHERE A FORWARD APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL ABUT AND BE CENTERED ON THE CLEAR GROUND SPACE.
 - WHERE A PARALLEL APPROACH IS PROVIDED, PEDESTRIAN PUSH BUTTONS SHALL BE WITHIN TEN INCHES (10") HORIZONTALLY OF AND CENTERED ON THE CLEAR GROUND SPACE.



PEDESTRIAN PUSH BUTTON CLEAR ZONE

SCALE: N.T.S.

DWG: PM-10

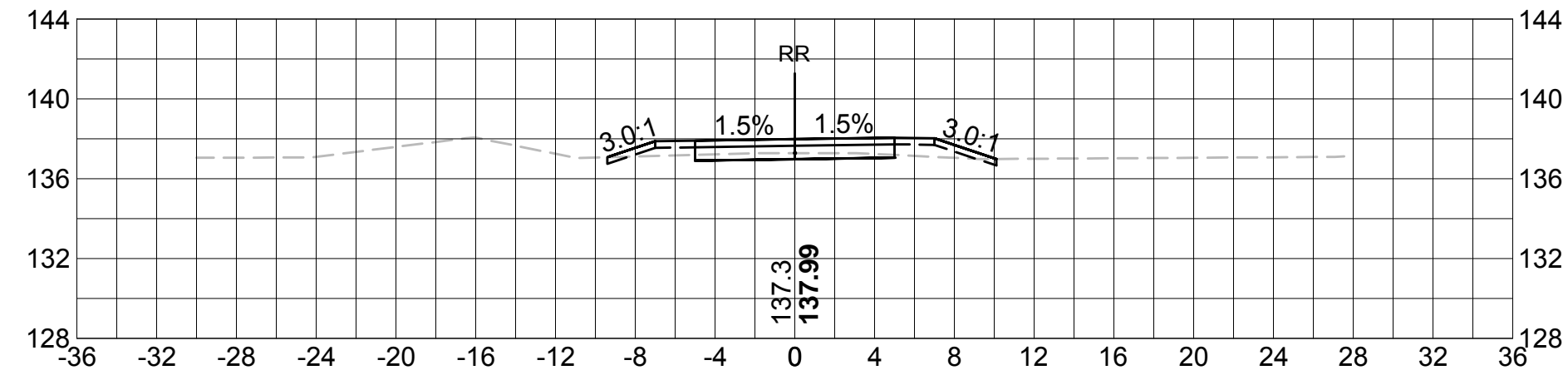
DATE: APRIL 2013

SUDBURY
BRUCE FREEMAN RAIL TRAIL

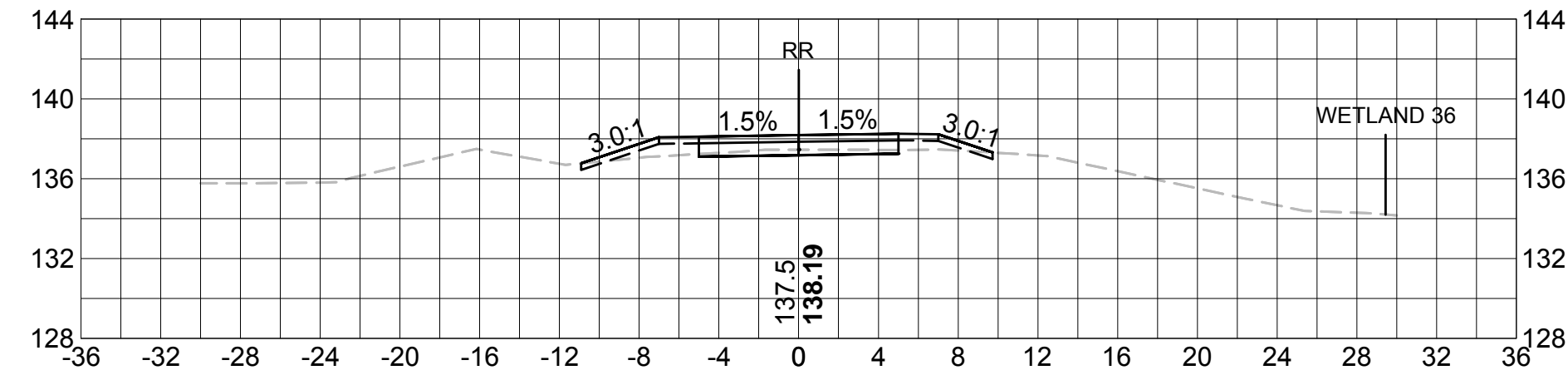
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MASS.	TBD	81	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

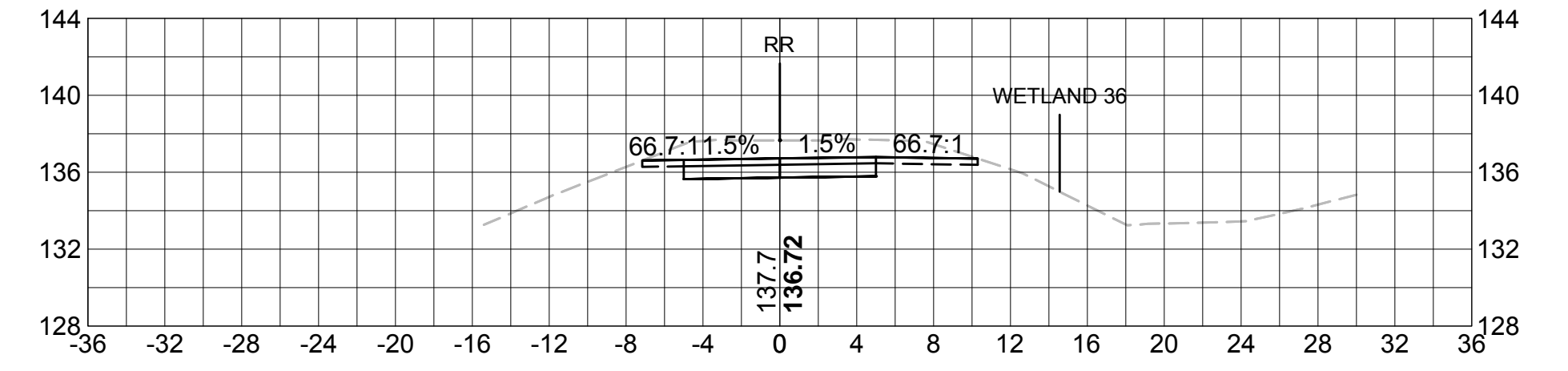
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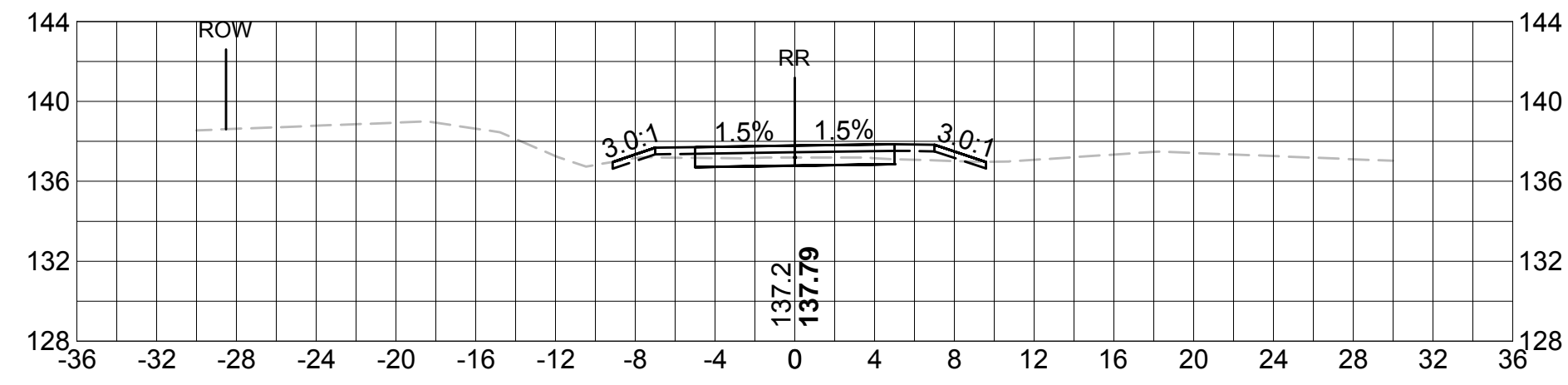
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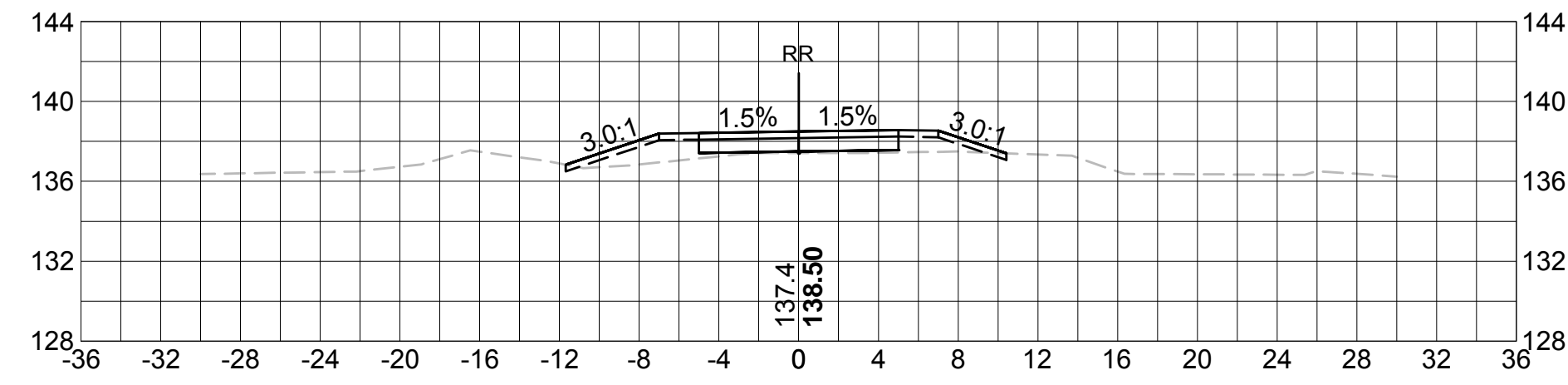
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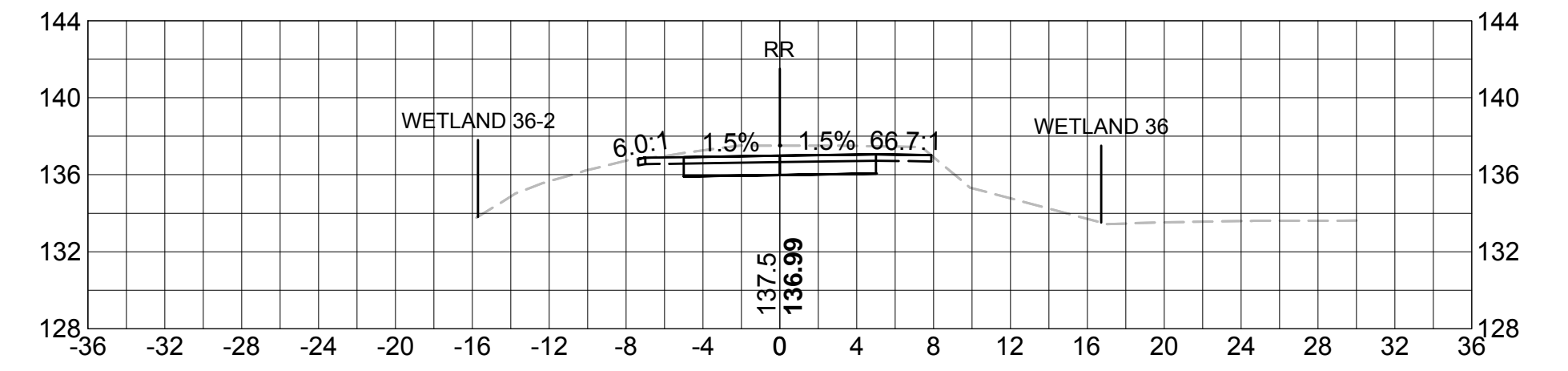
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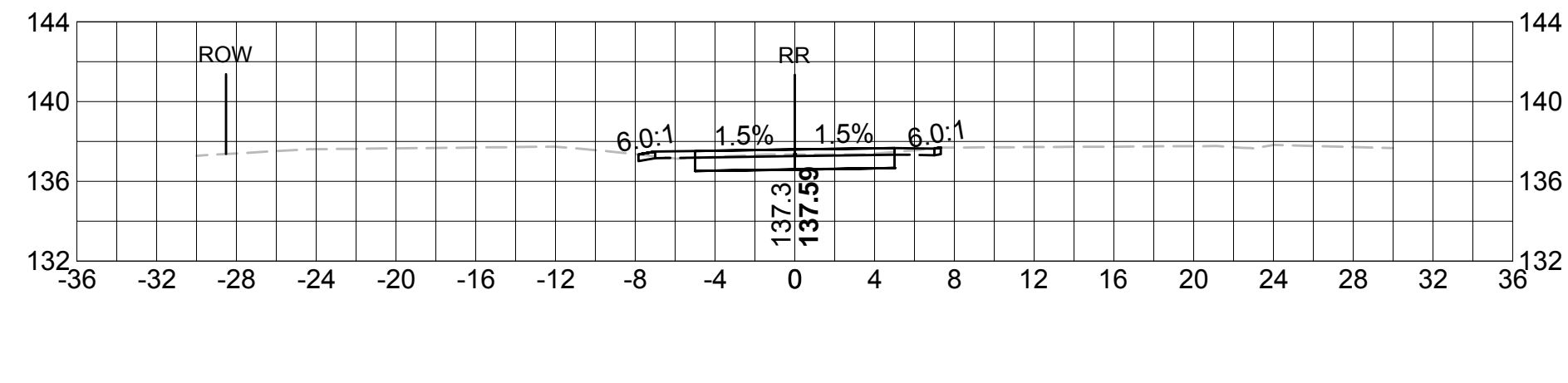
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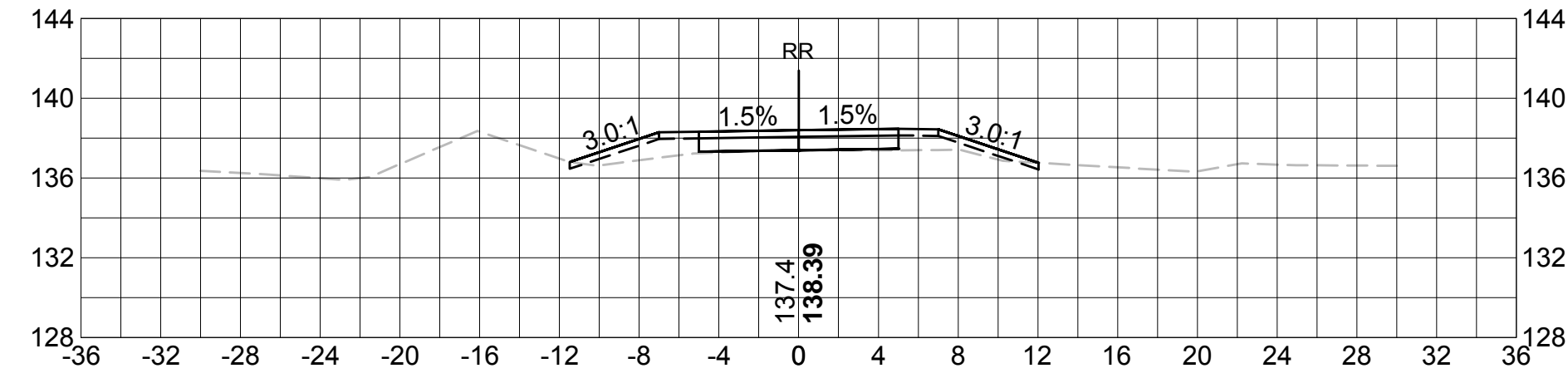
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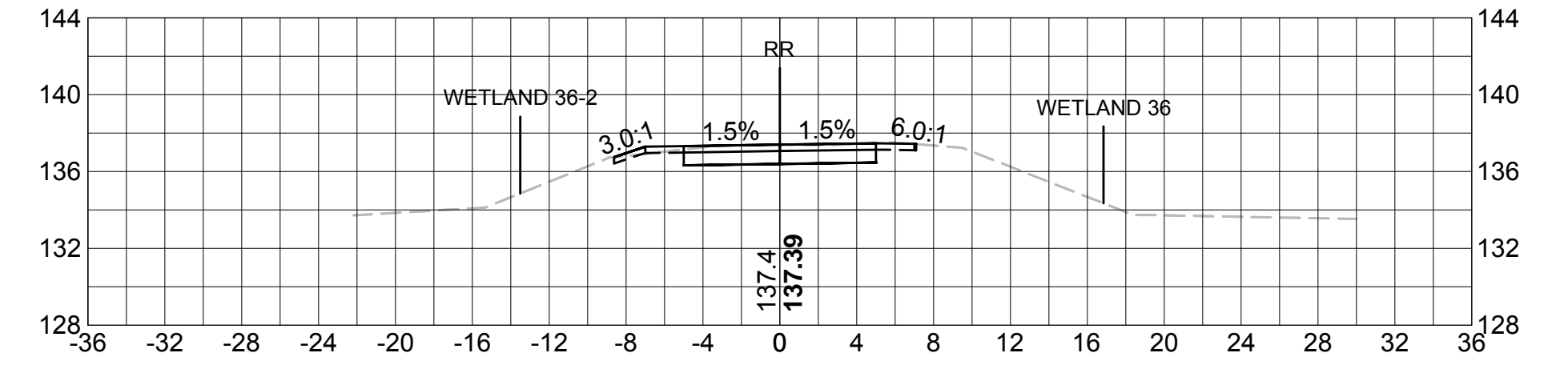
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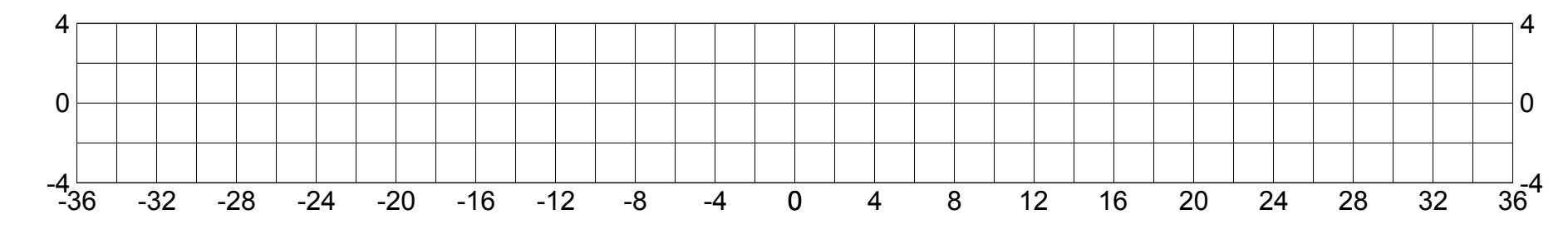
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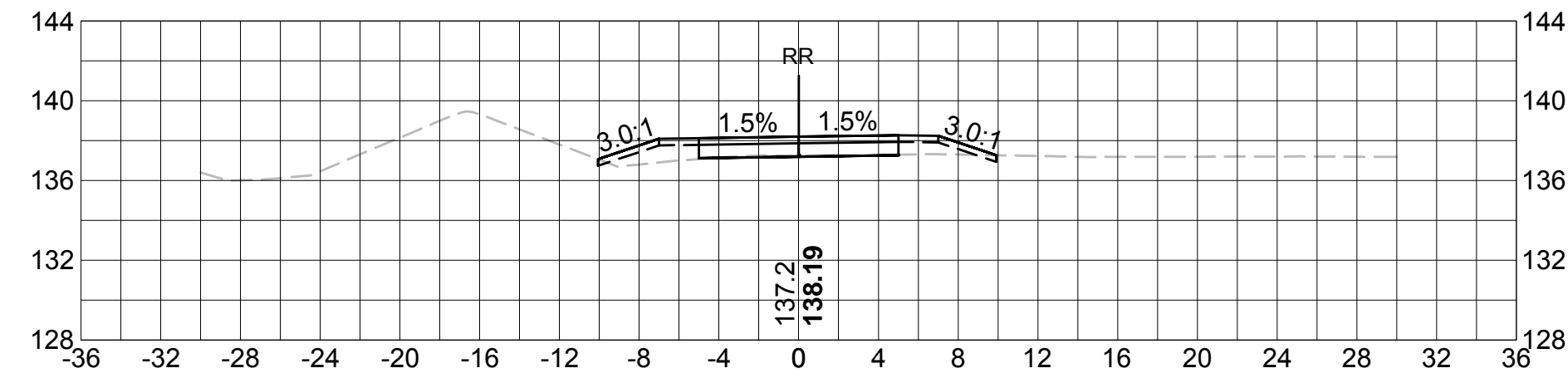
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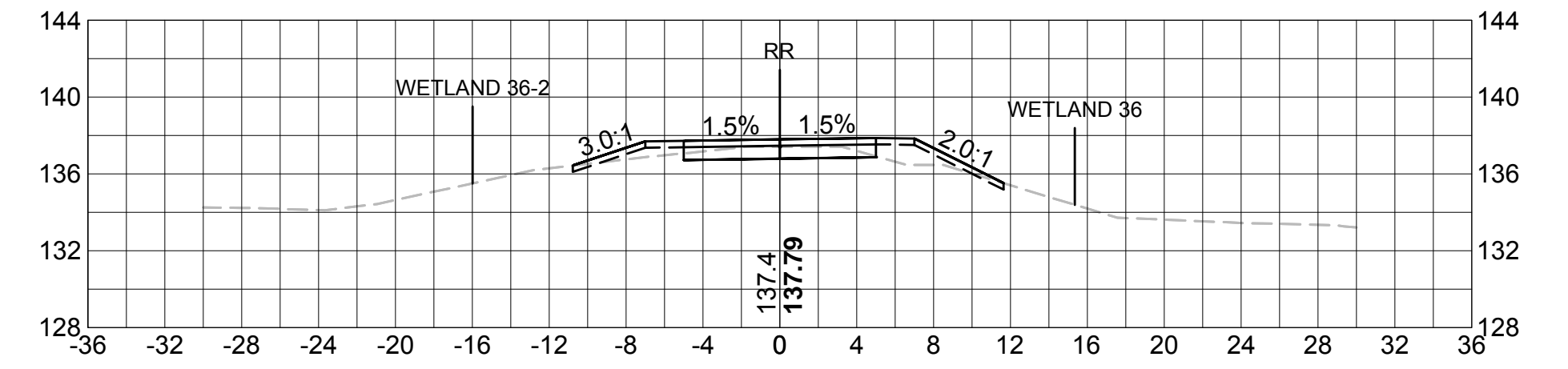
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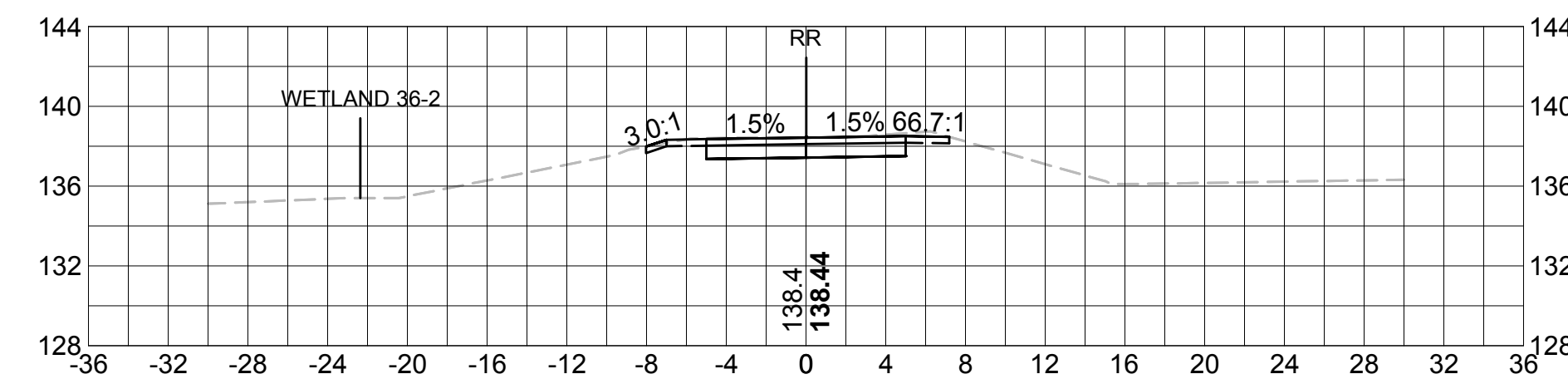
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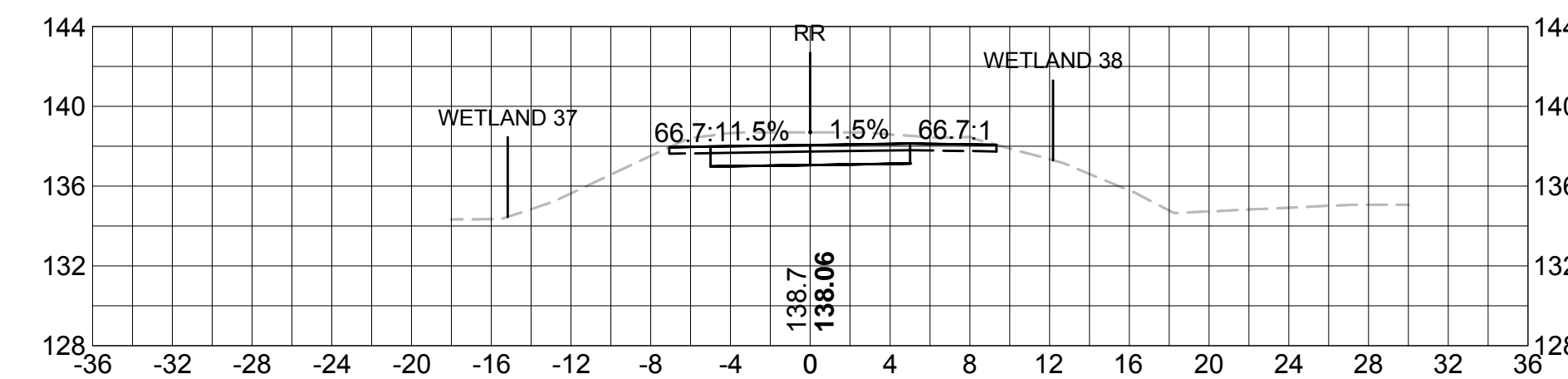
SUDBURY BRUCE FREEMAN RAIL TRAIL			
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MASS.	TBD	82	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

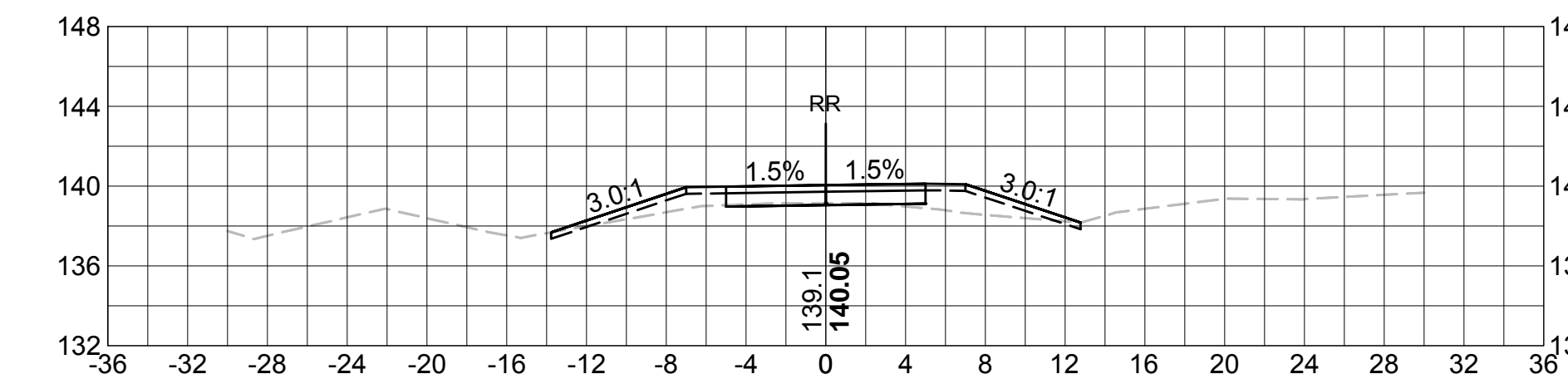
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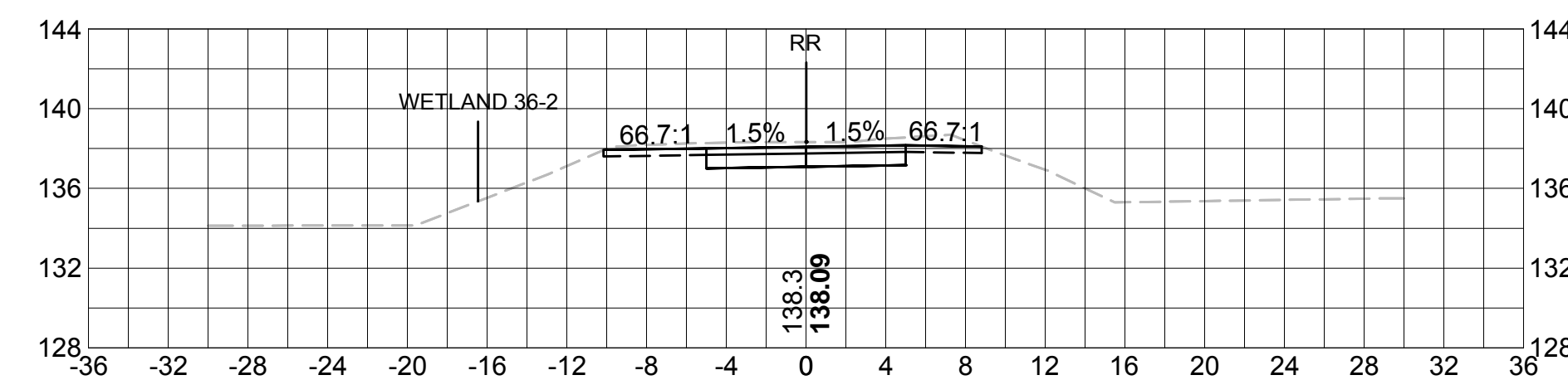
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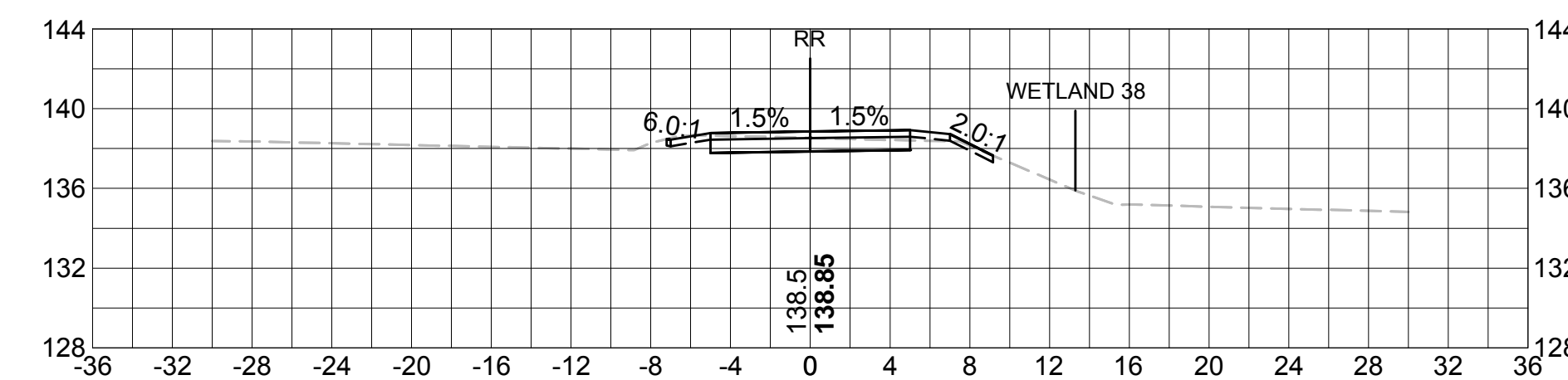
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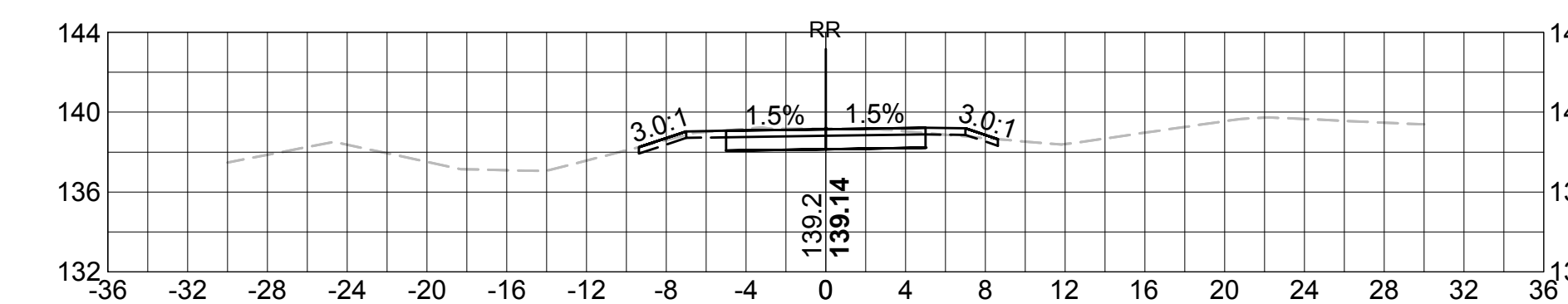
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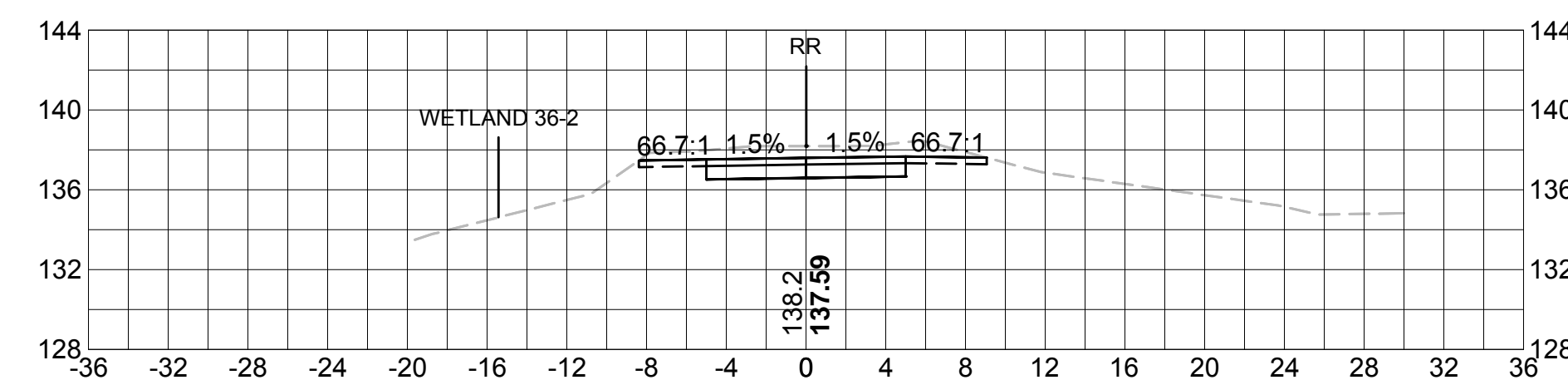
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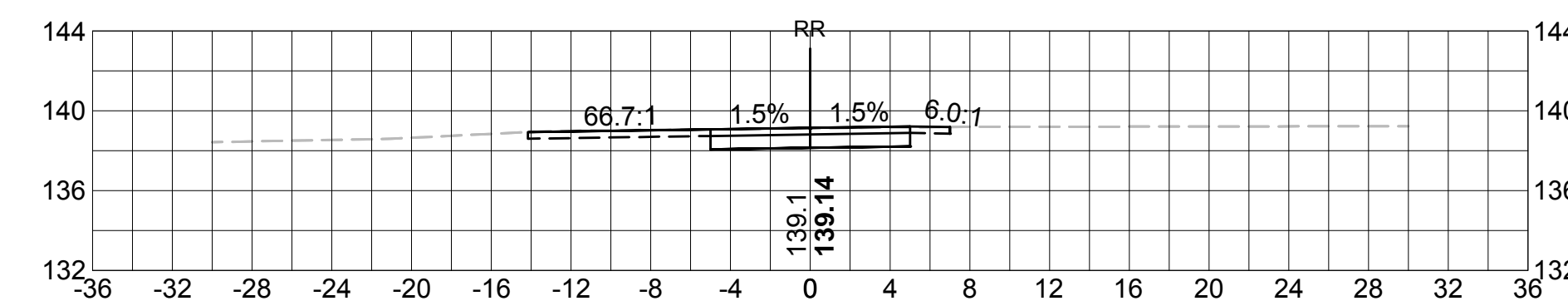
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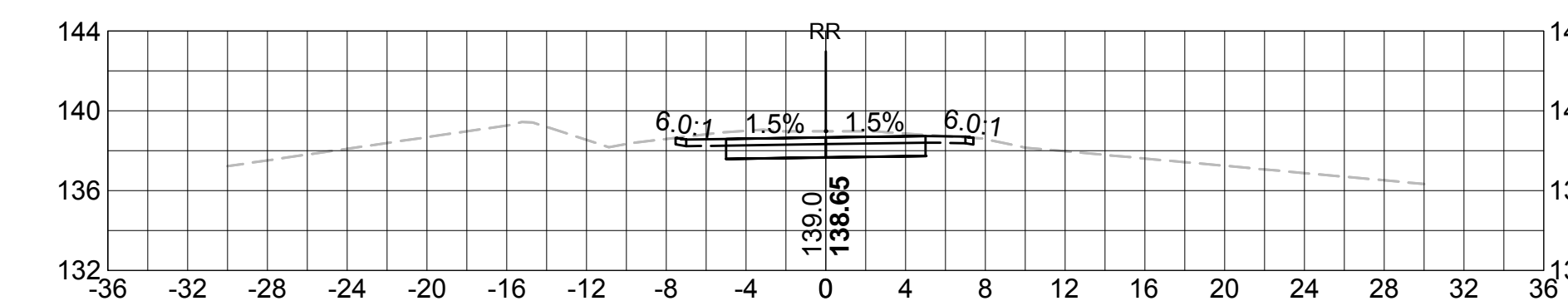
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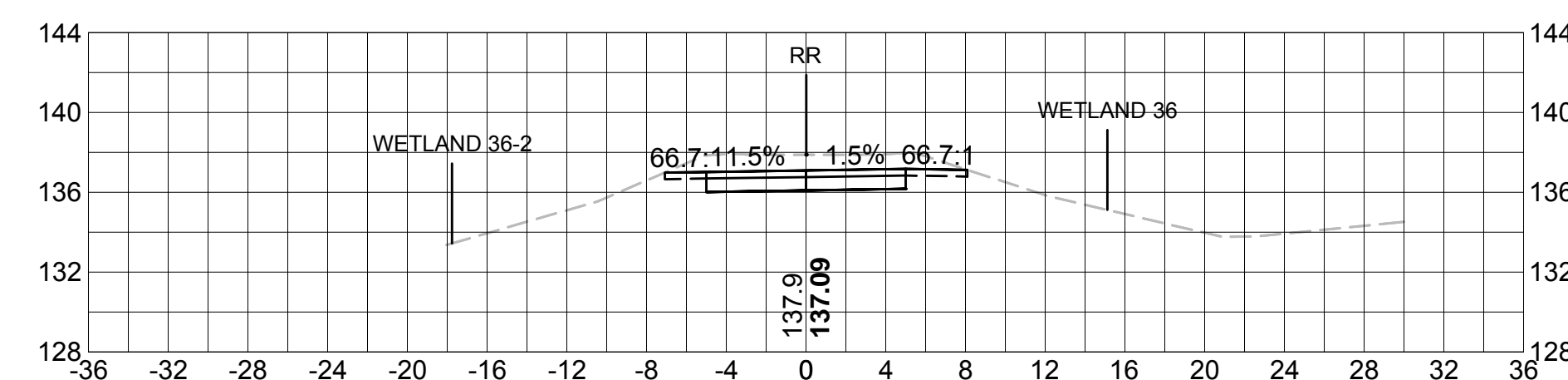
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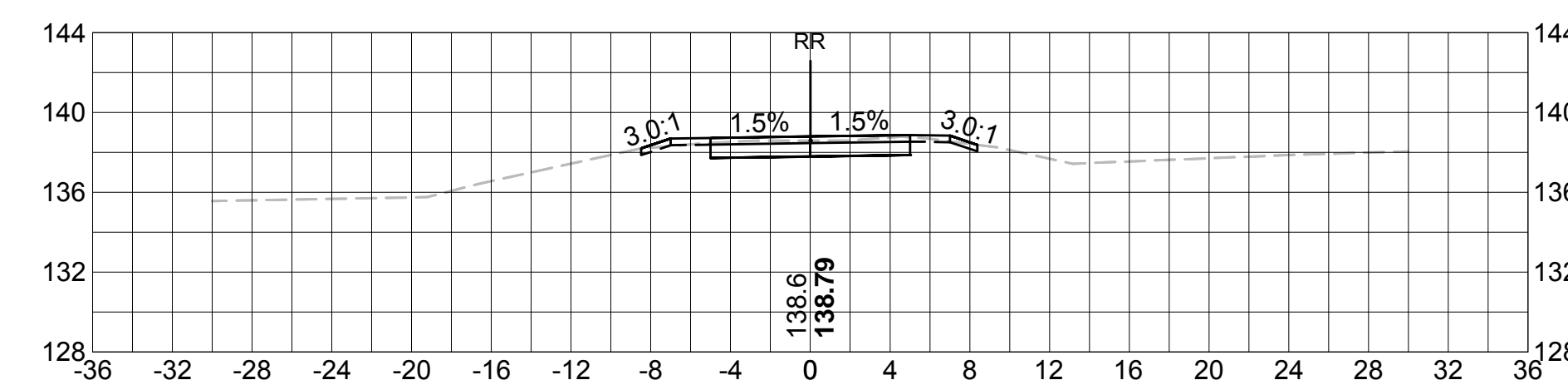
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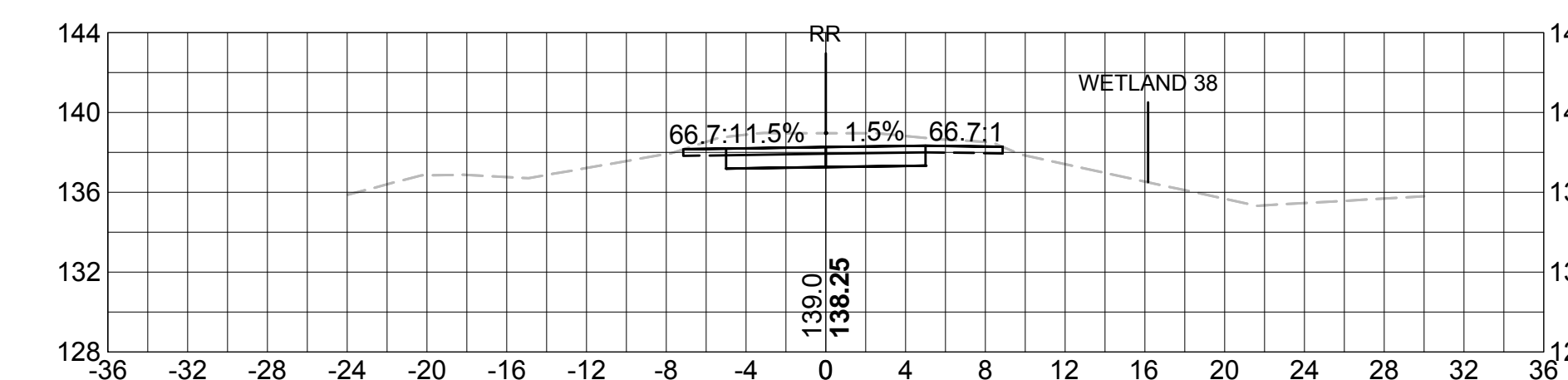
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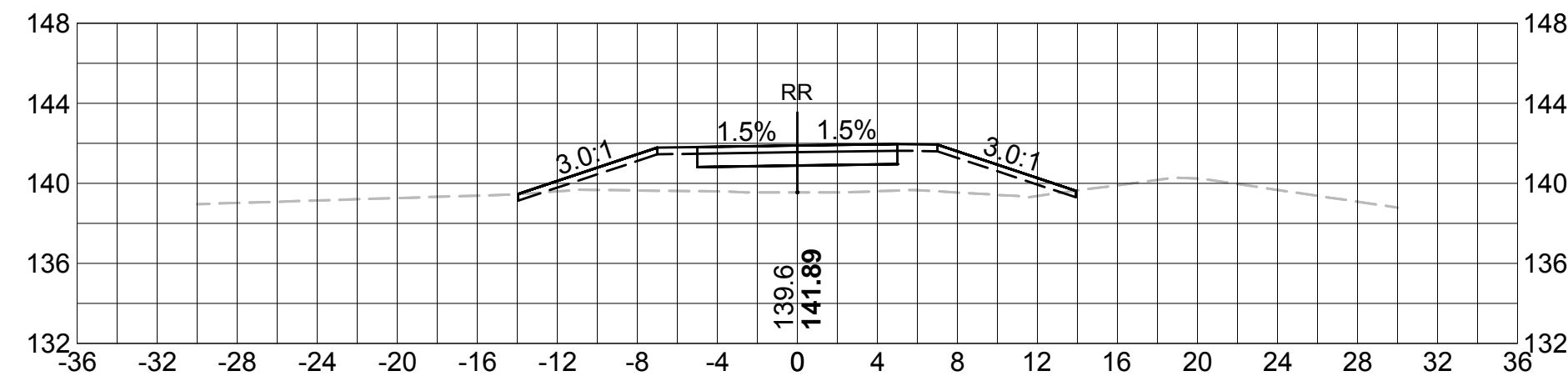


SUDBURY
BRUCE FREEMAN RAIL TRAIL

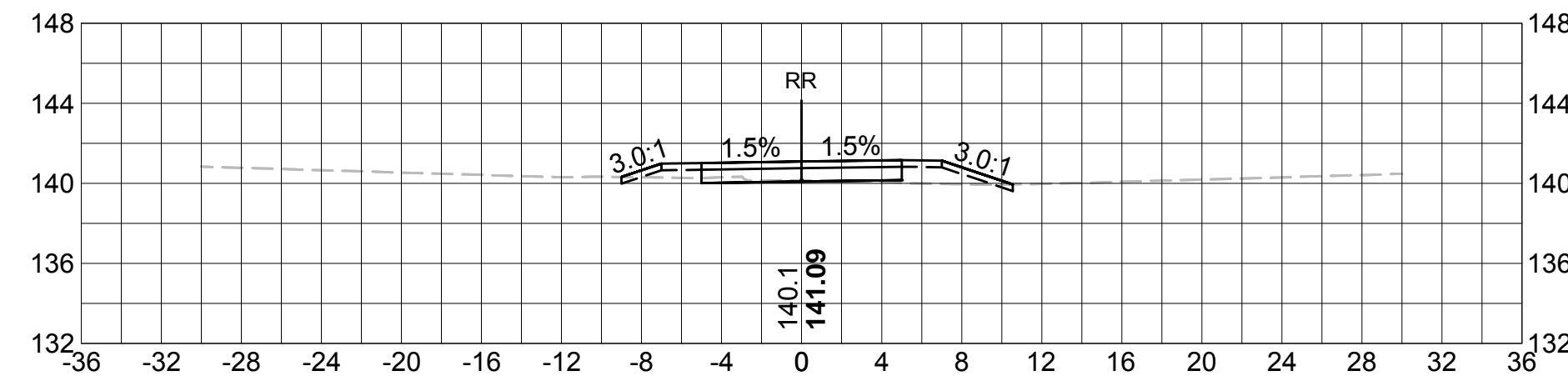
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MASS.	TBD	83	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

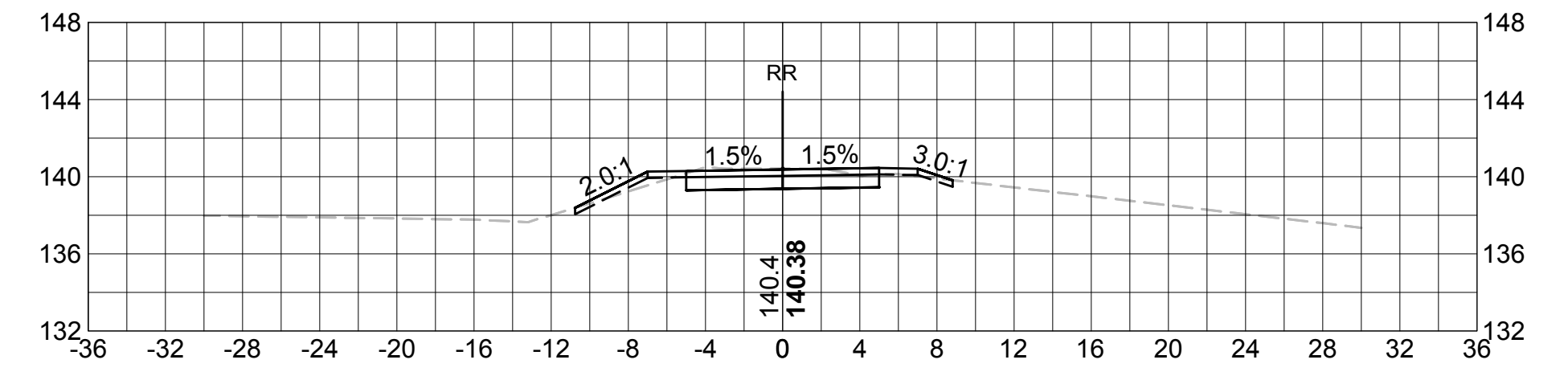
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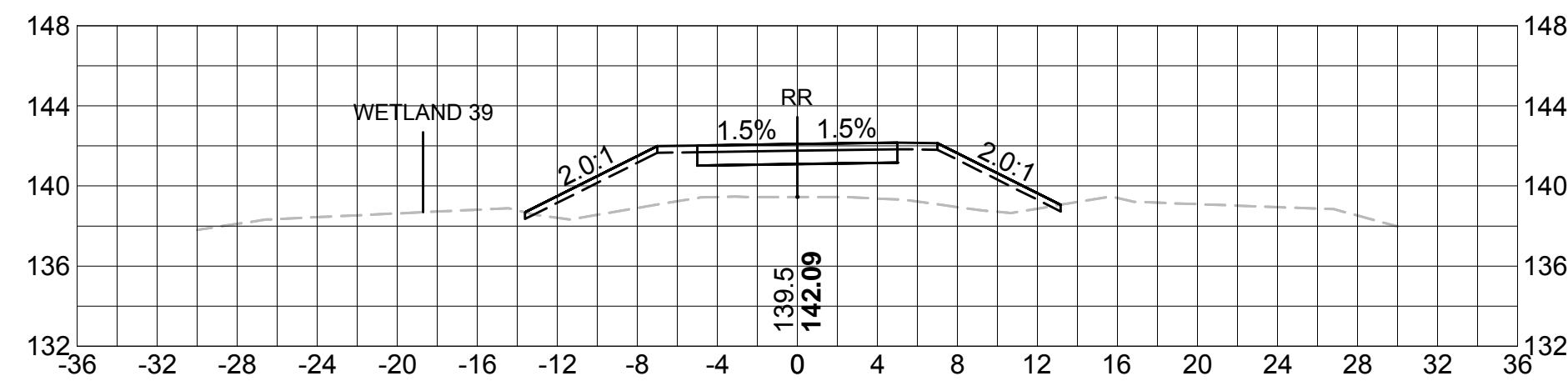
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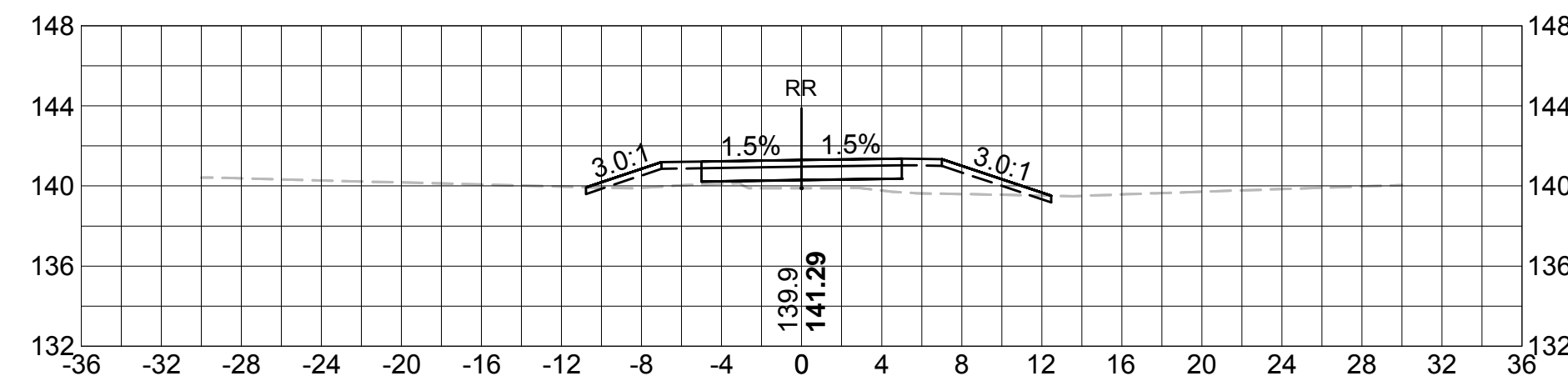
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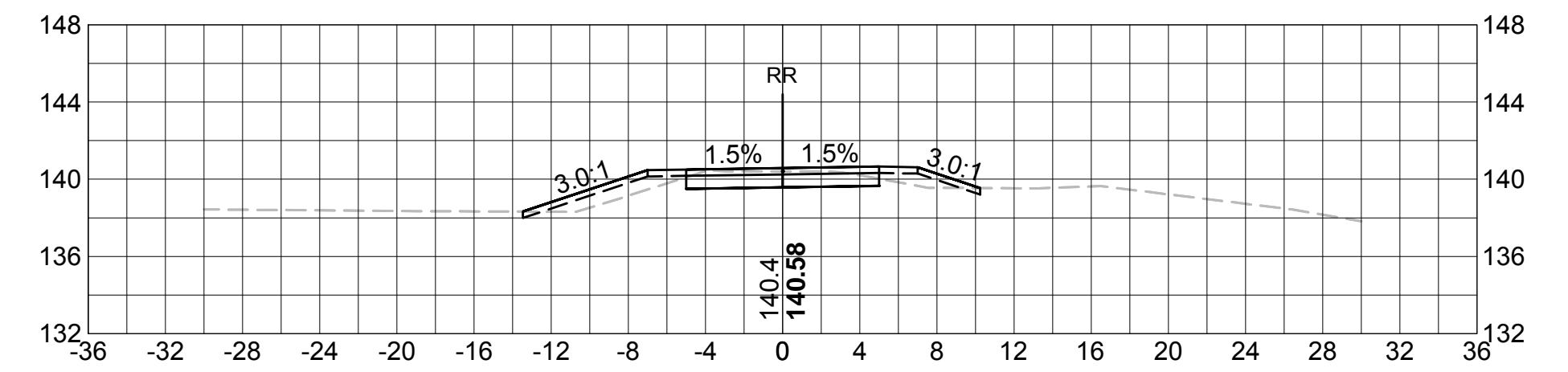
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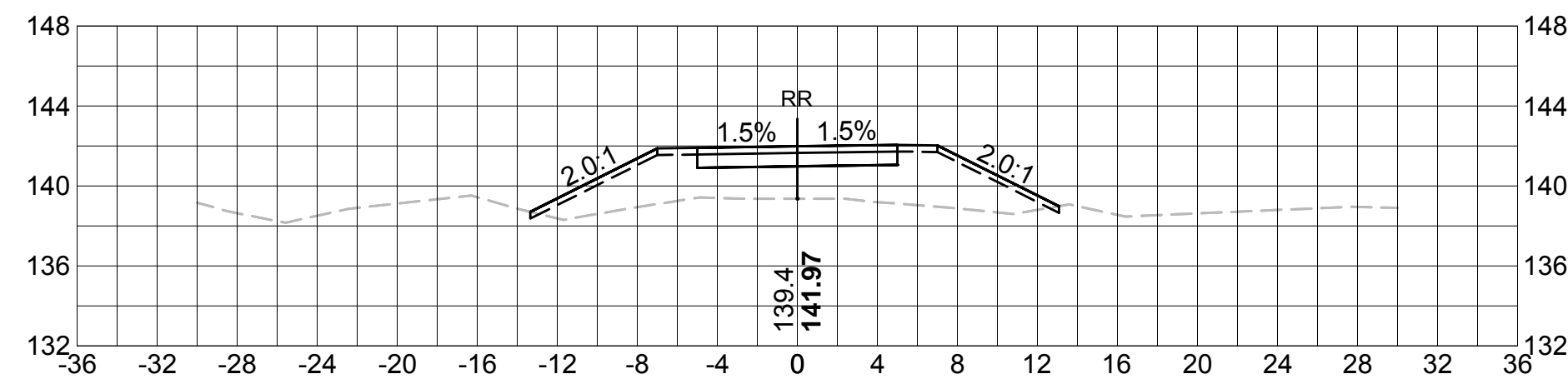
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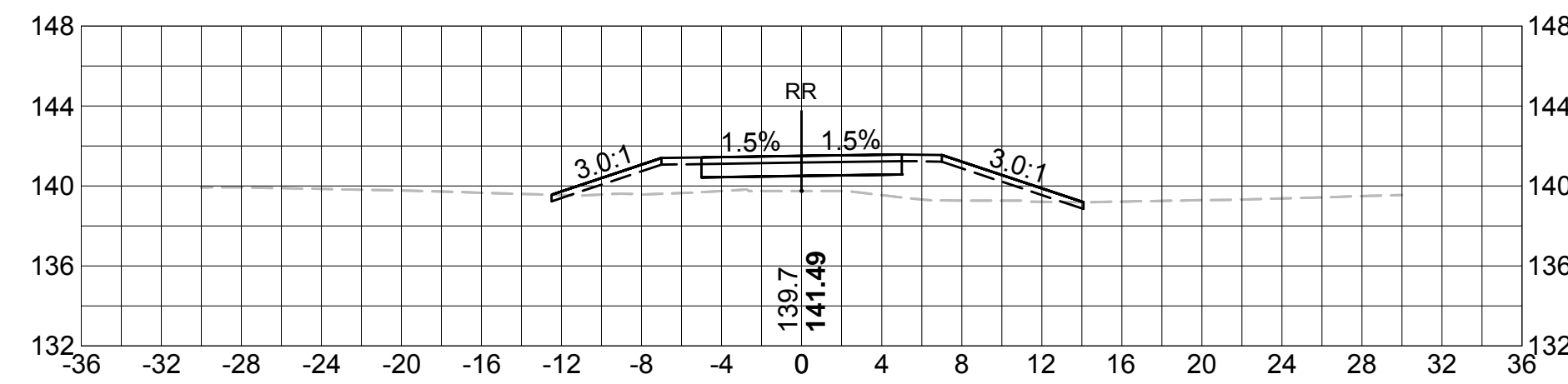
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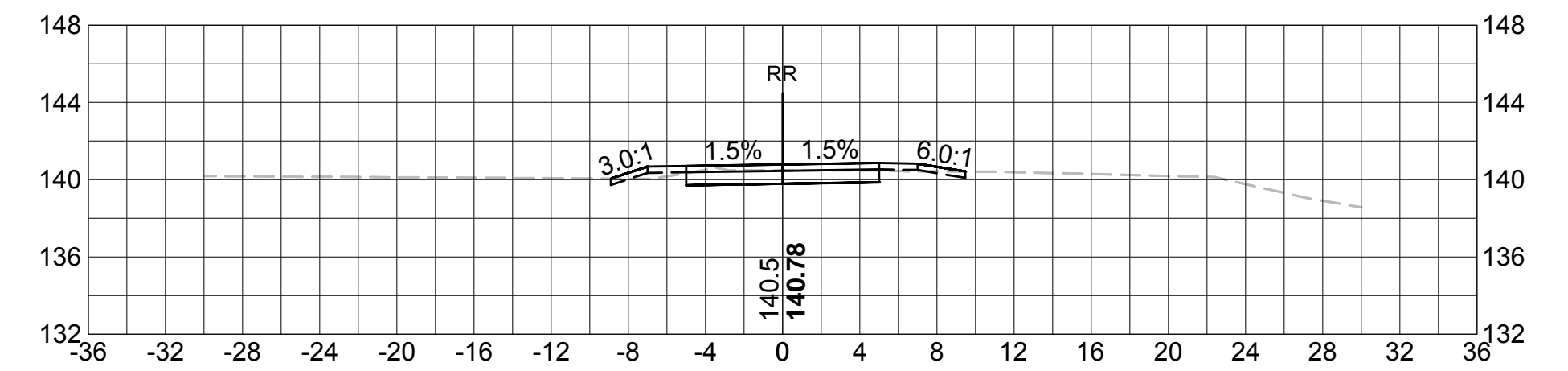
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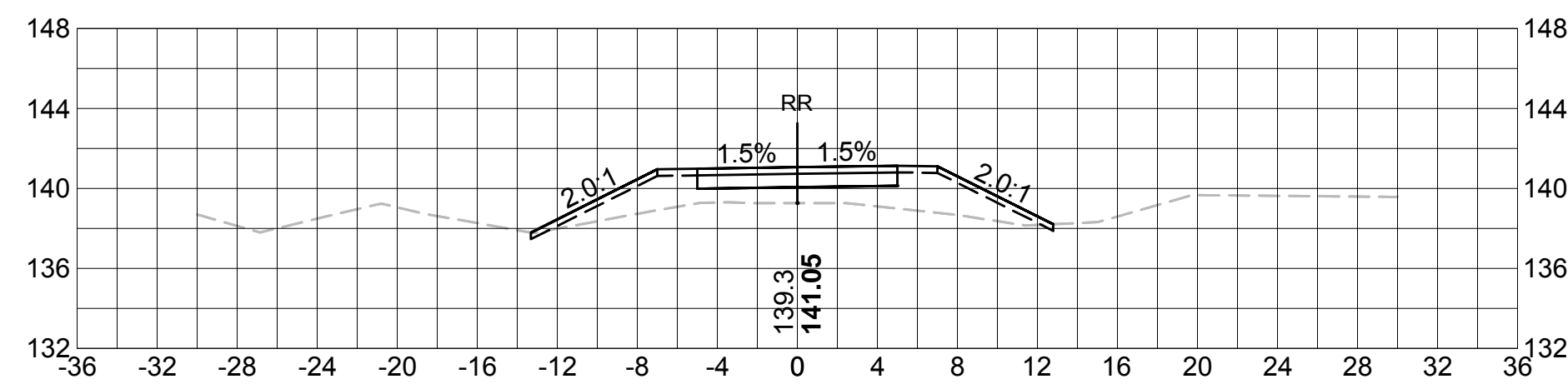
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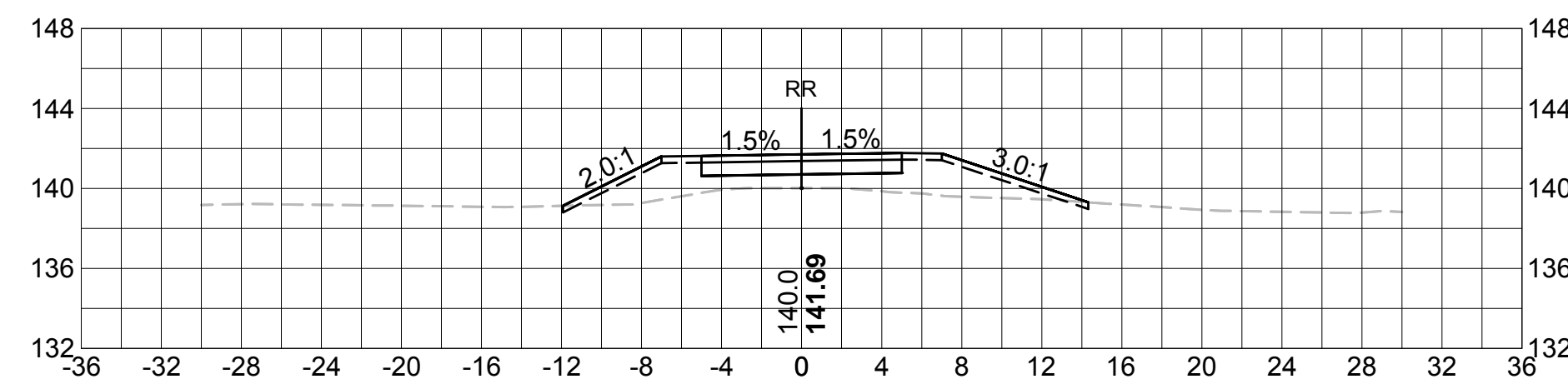
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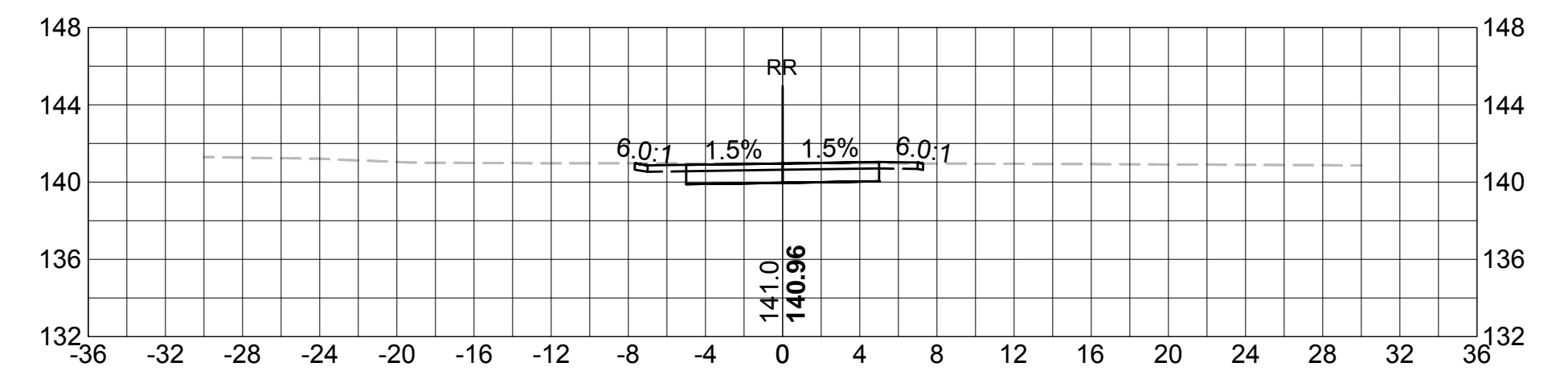
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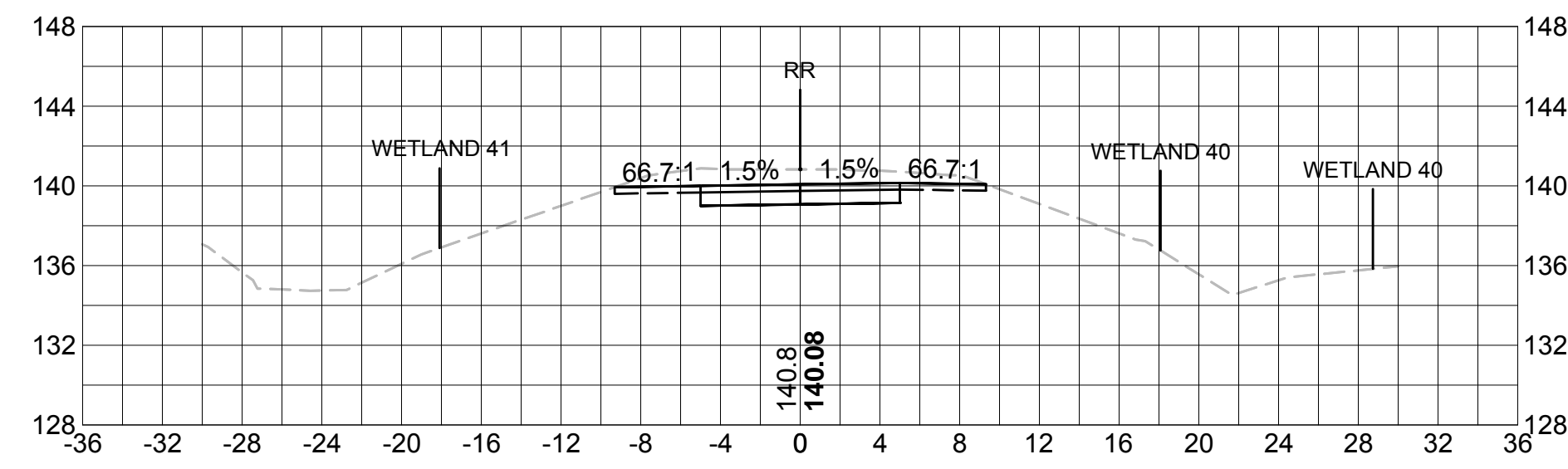


SUDBURY
BRUCE FREEMAN RAIL TRAIL

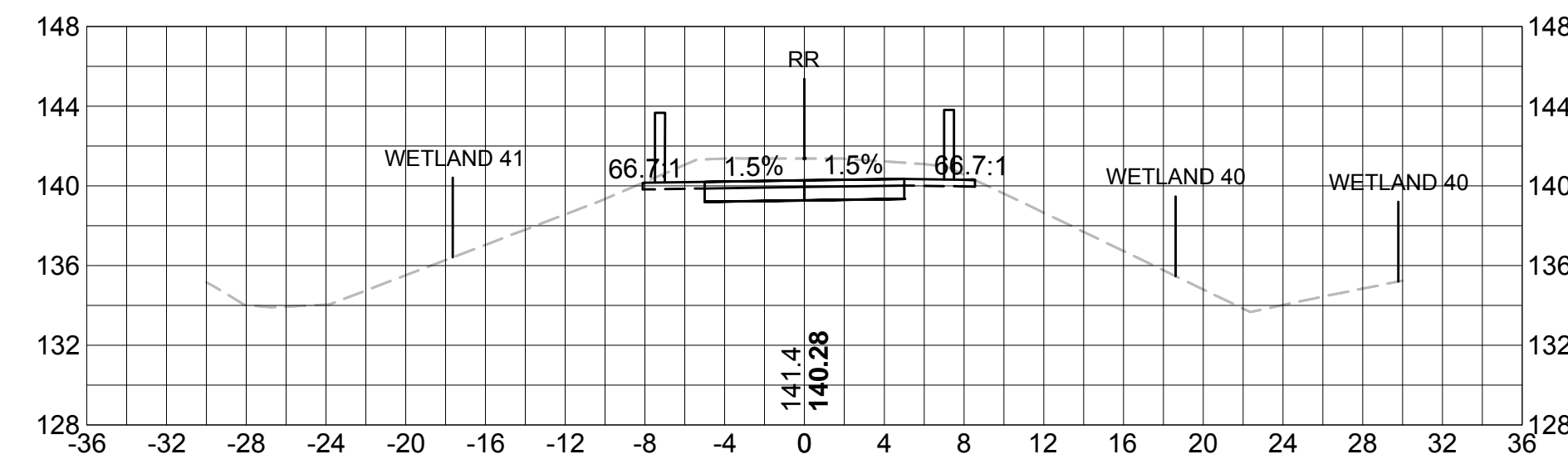
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MASS.	TBD	84	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

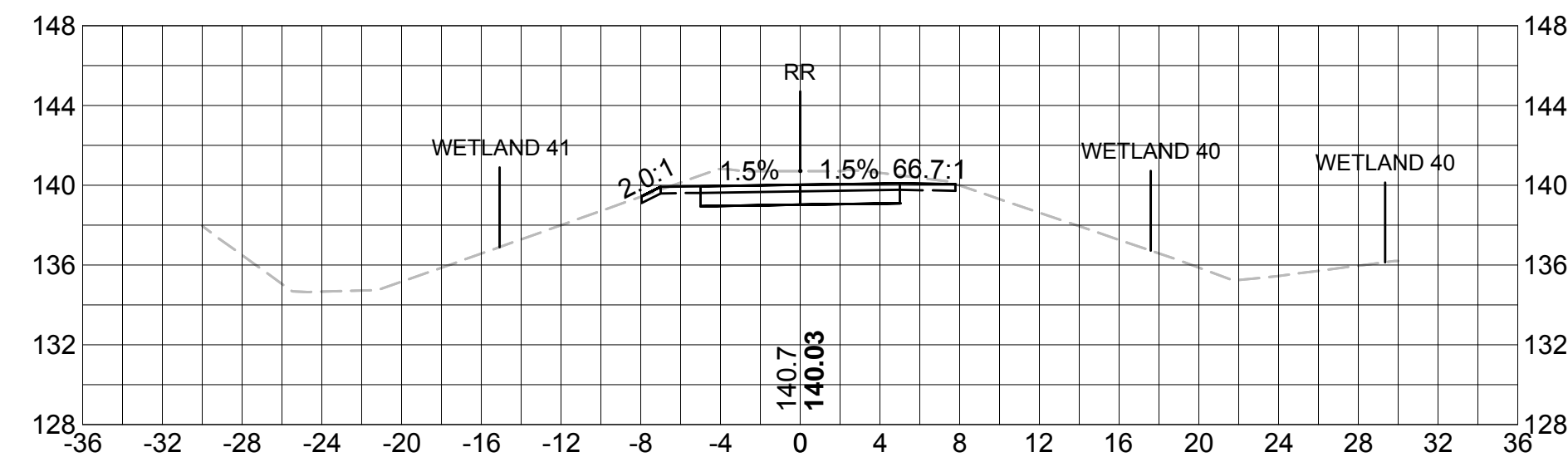
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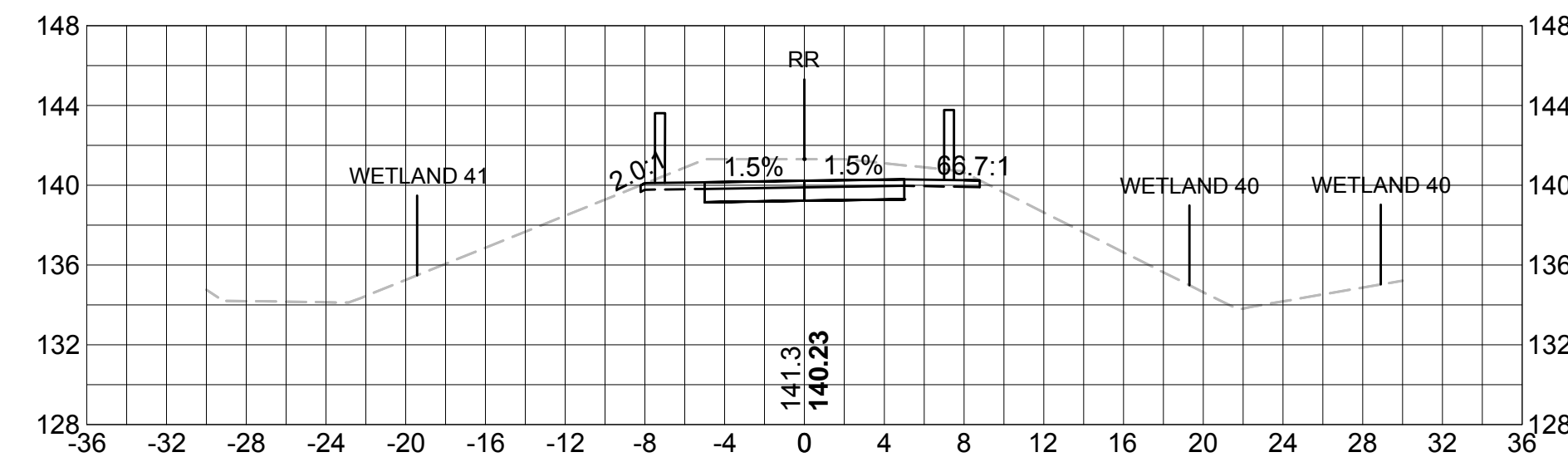
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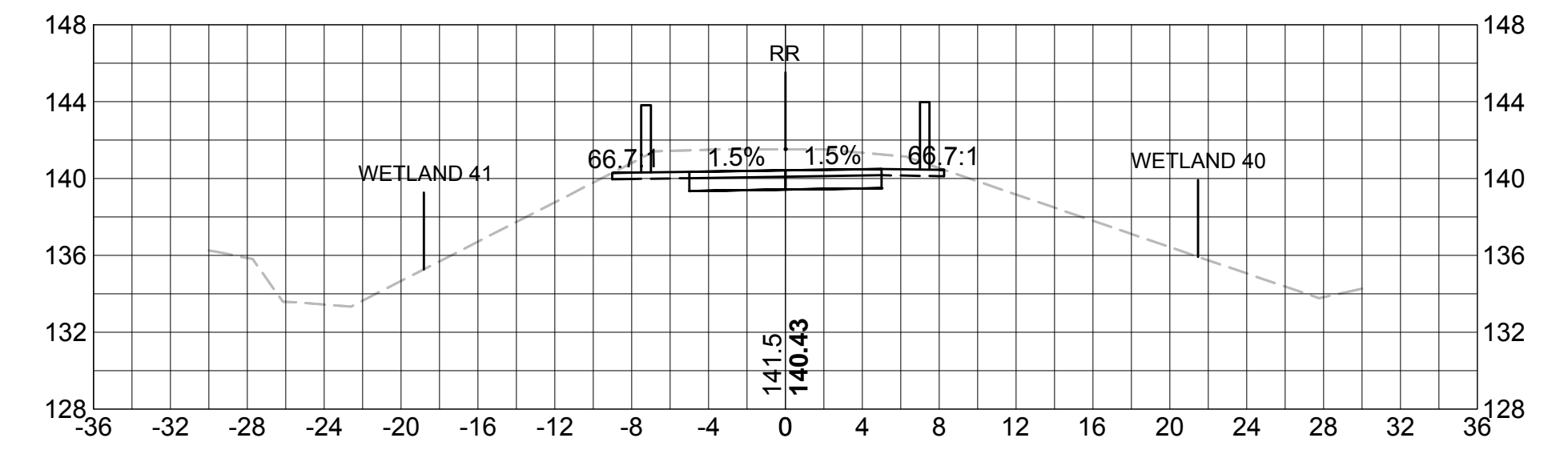
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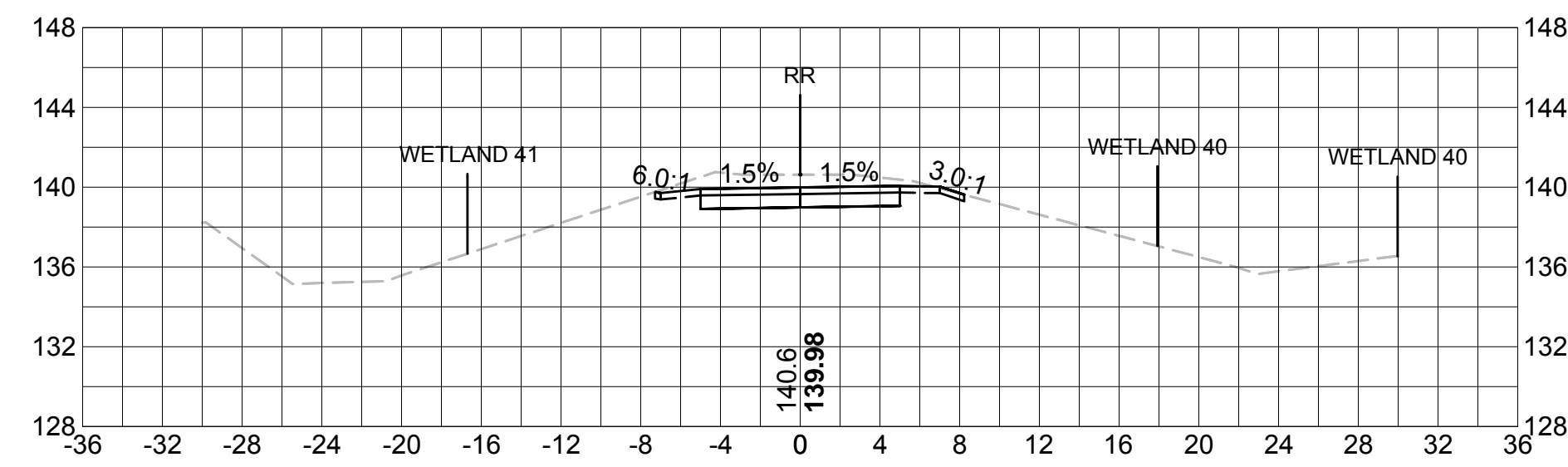
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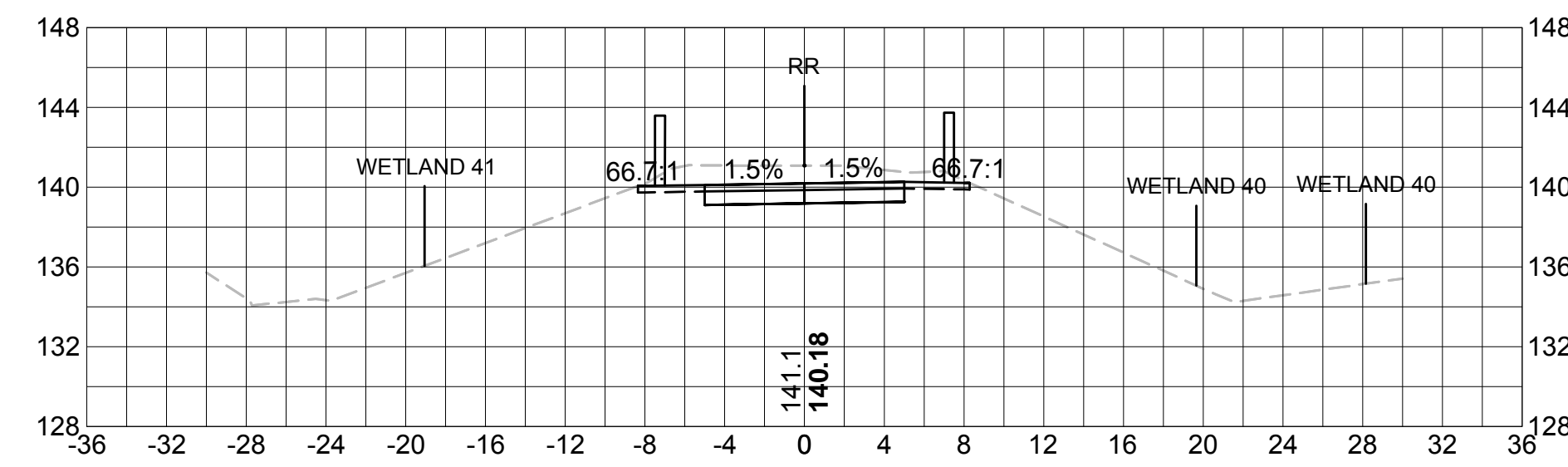
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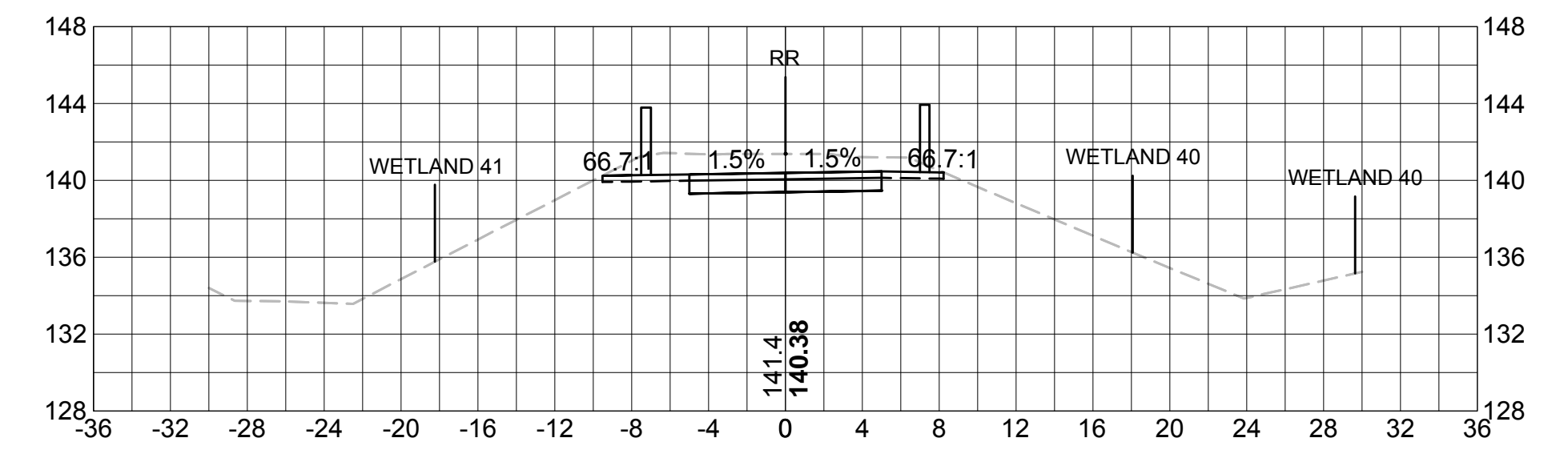
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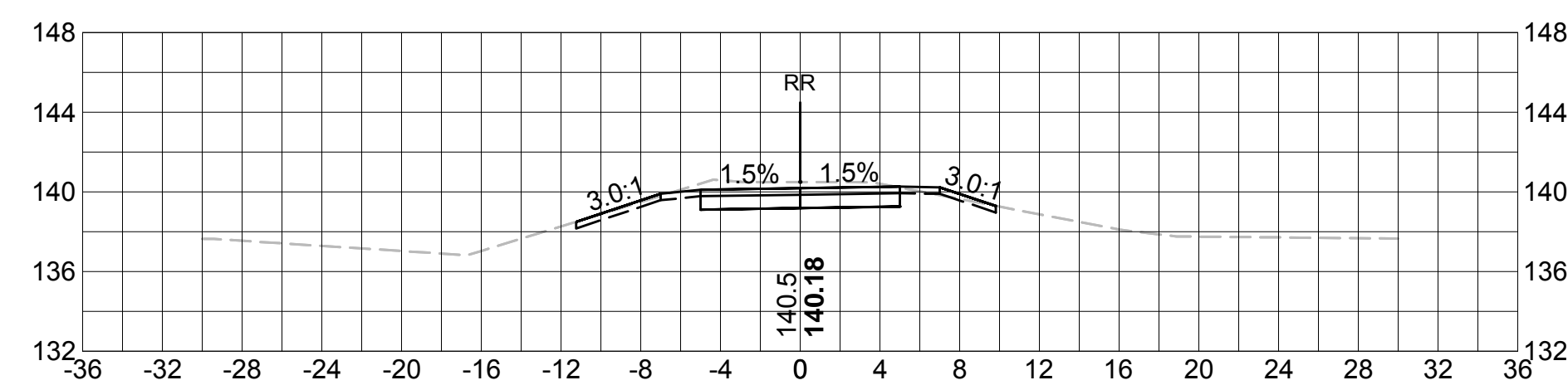
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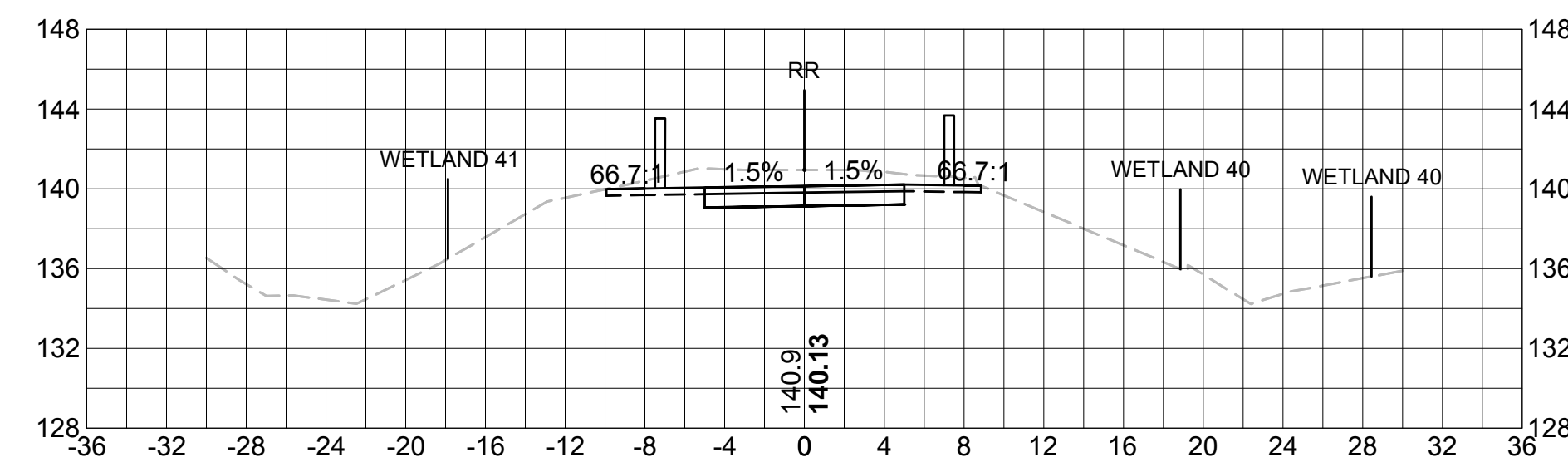
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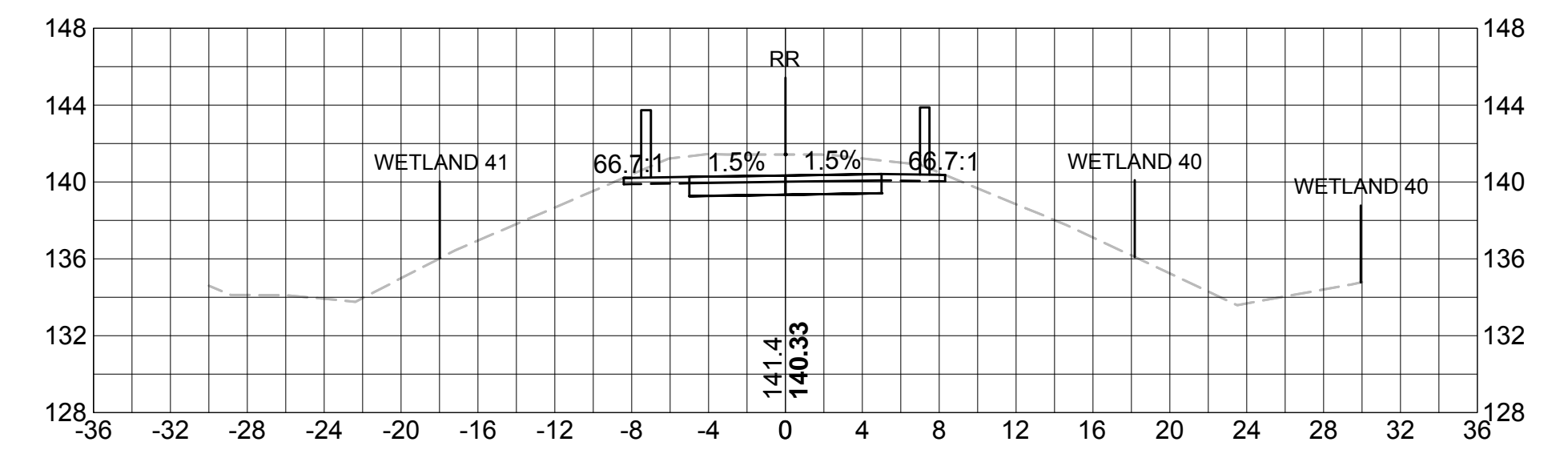
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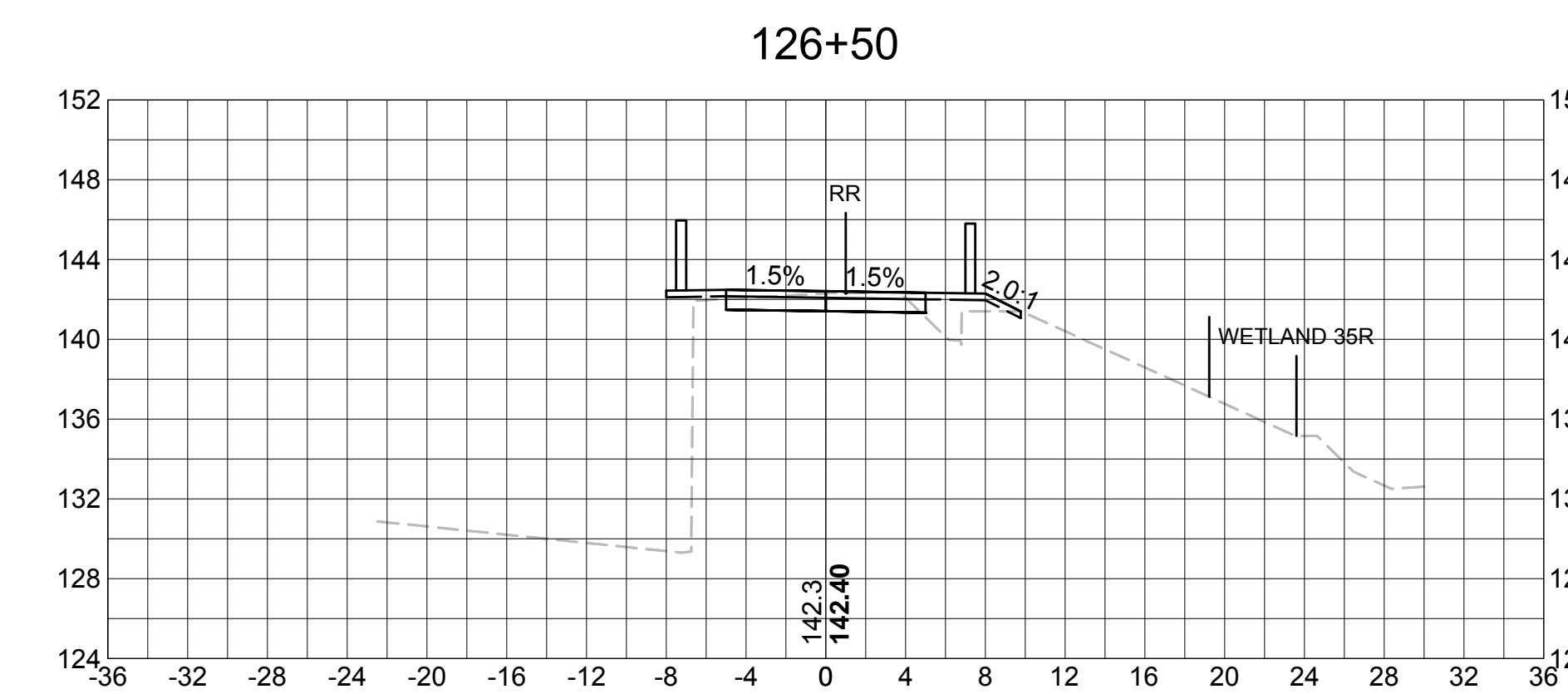
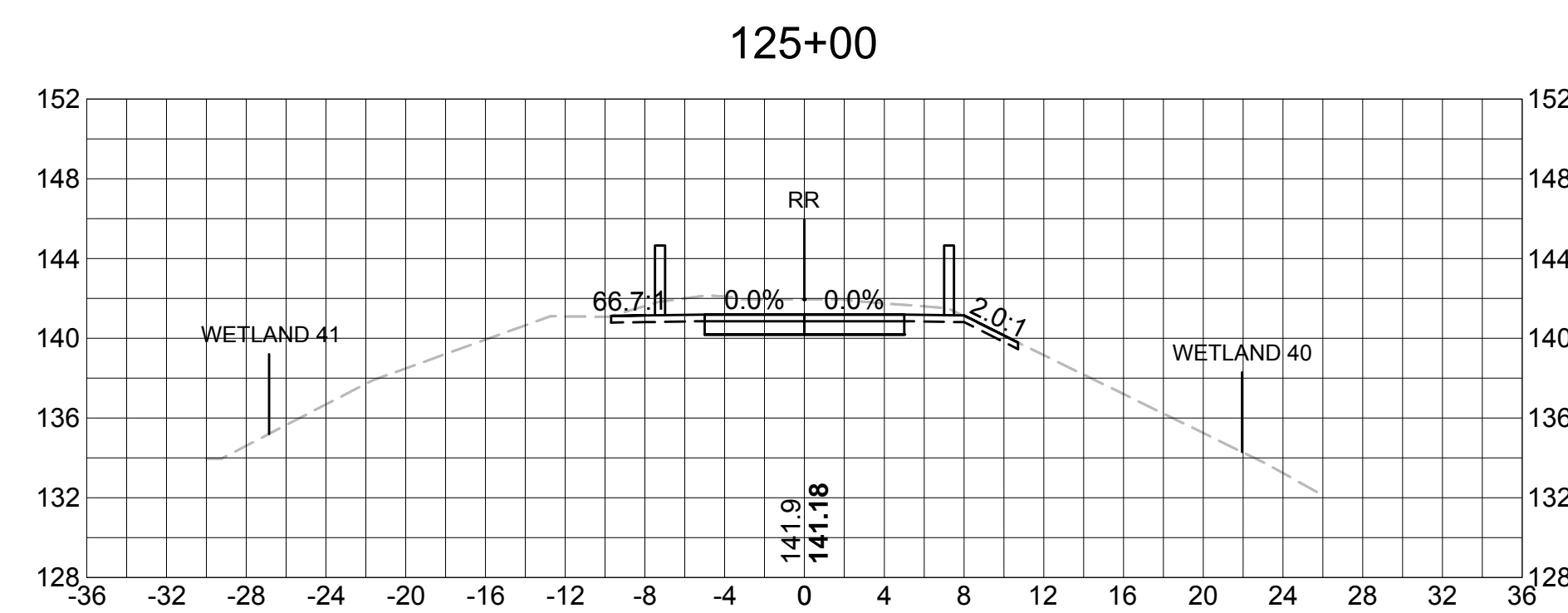
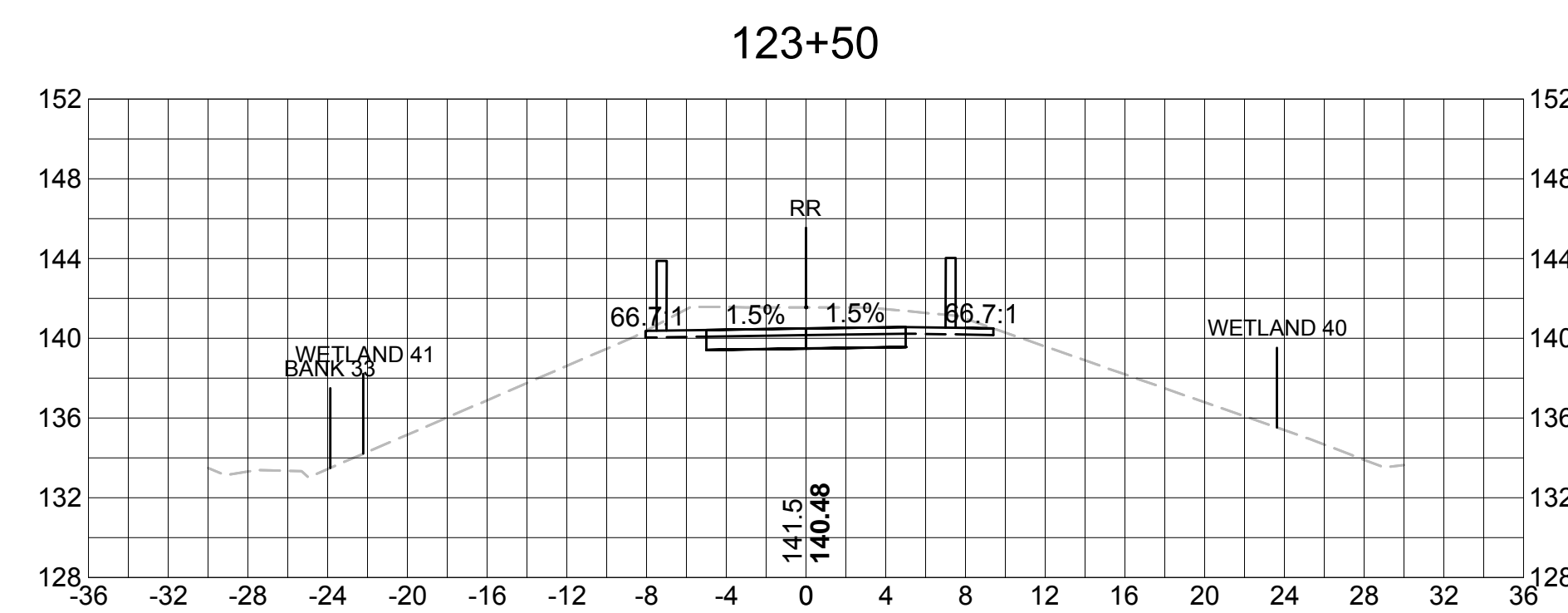
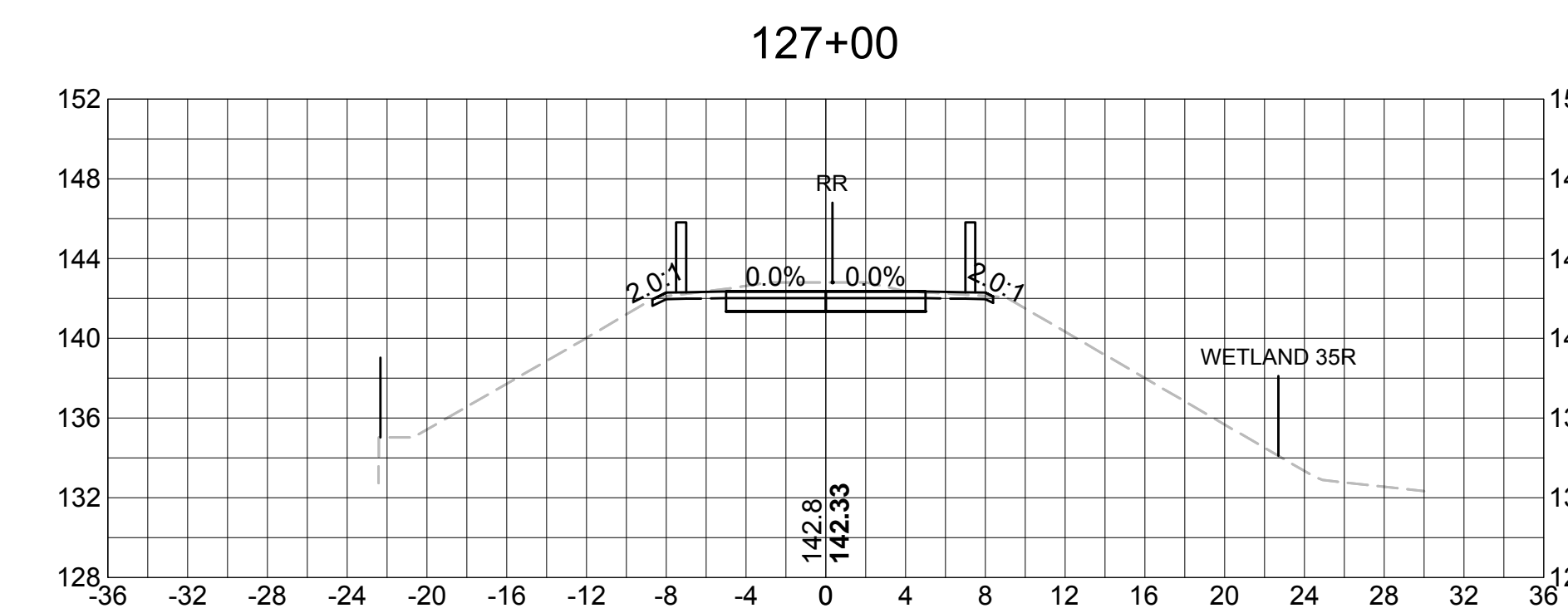
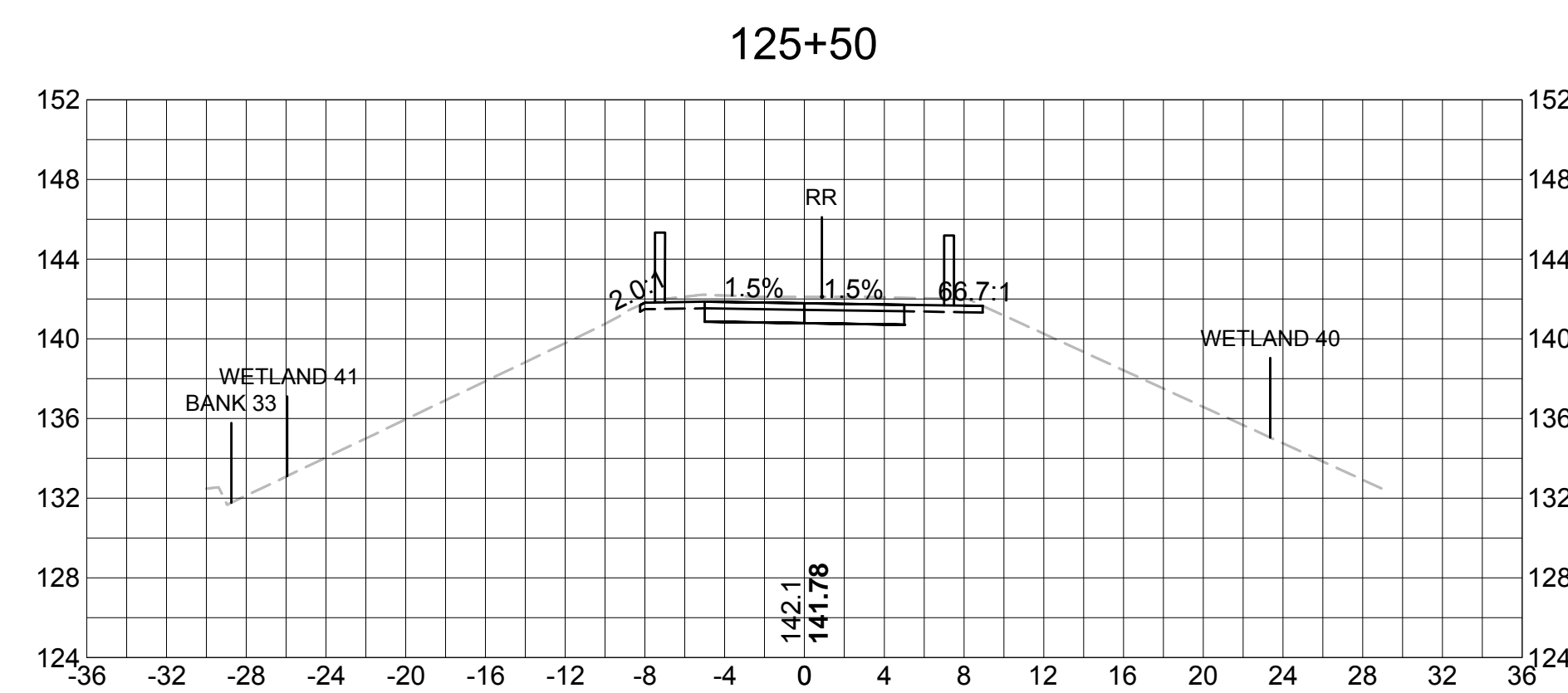
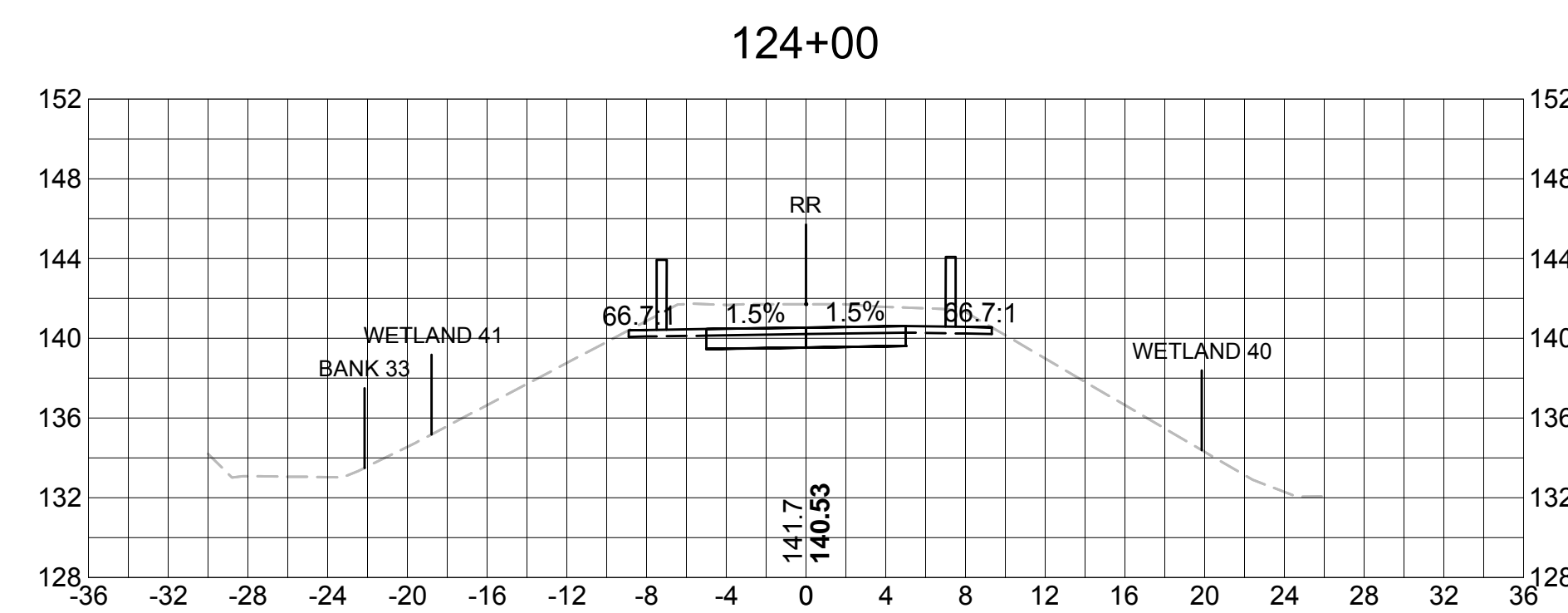
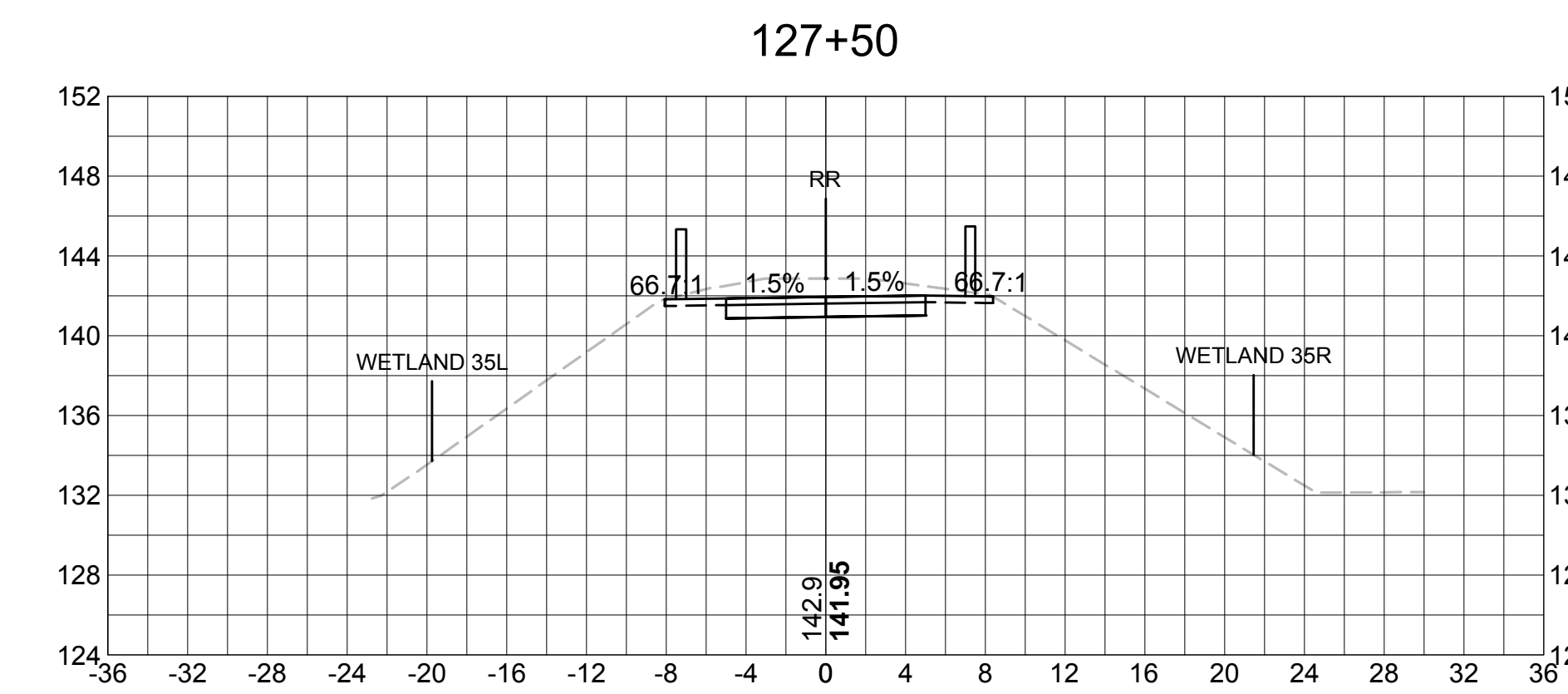
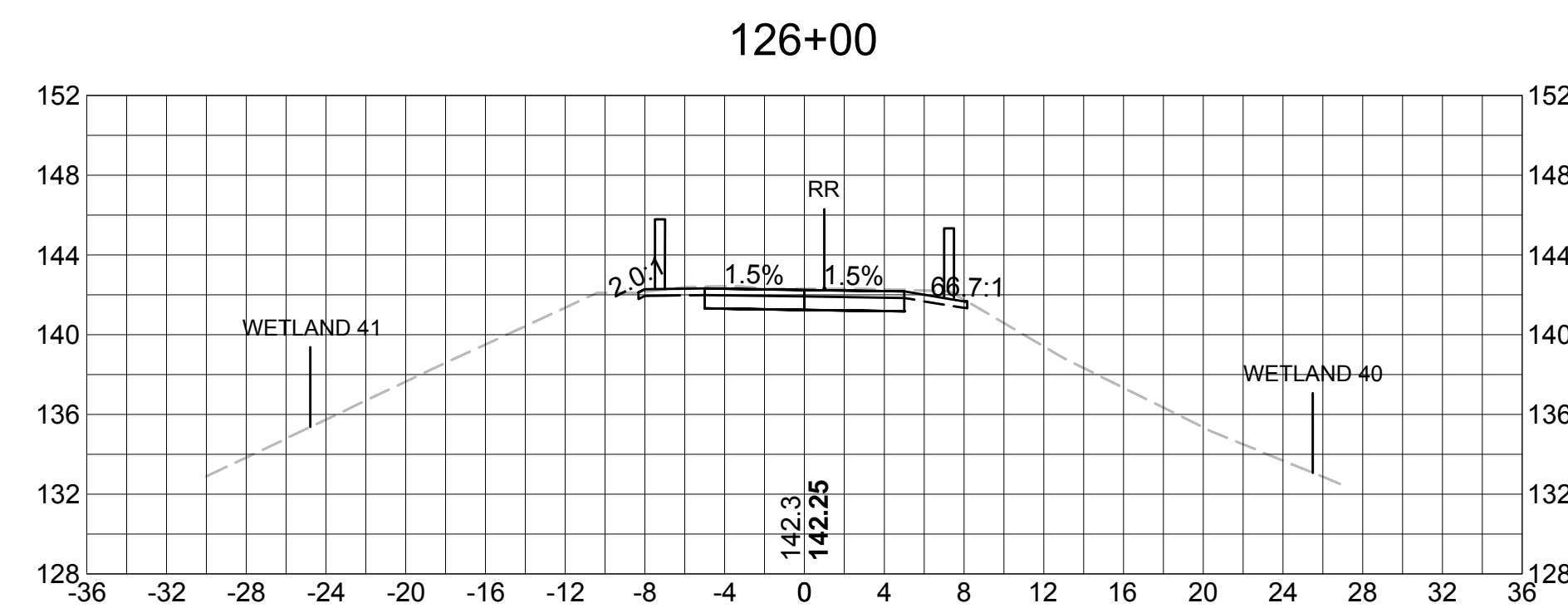
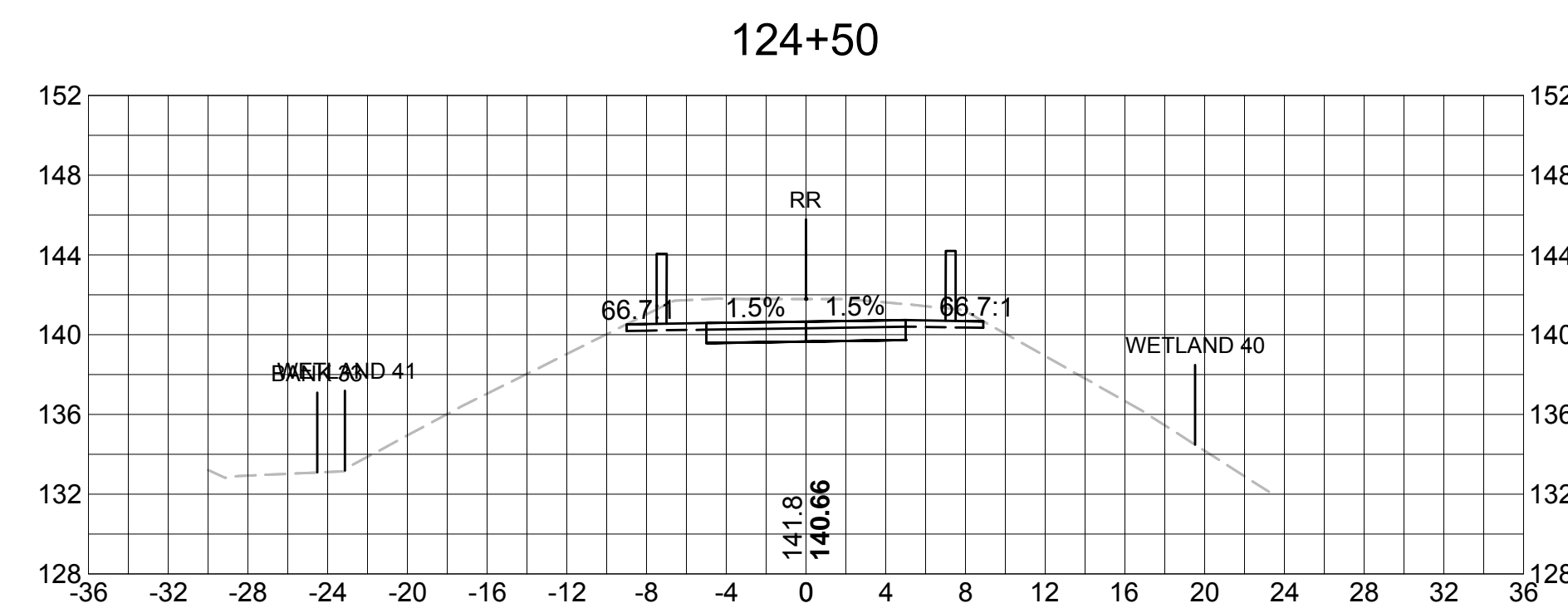


120+00



122+00

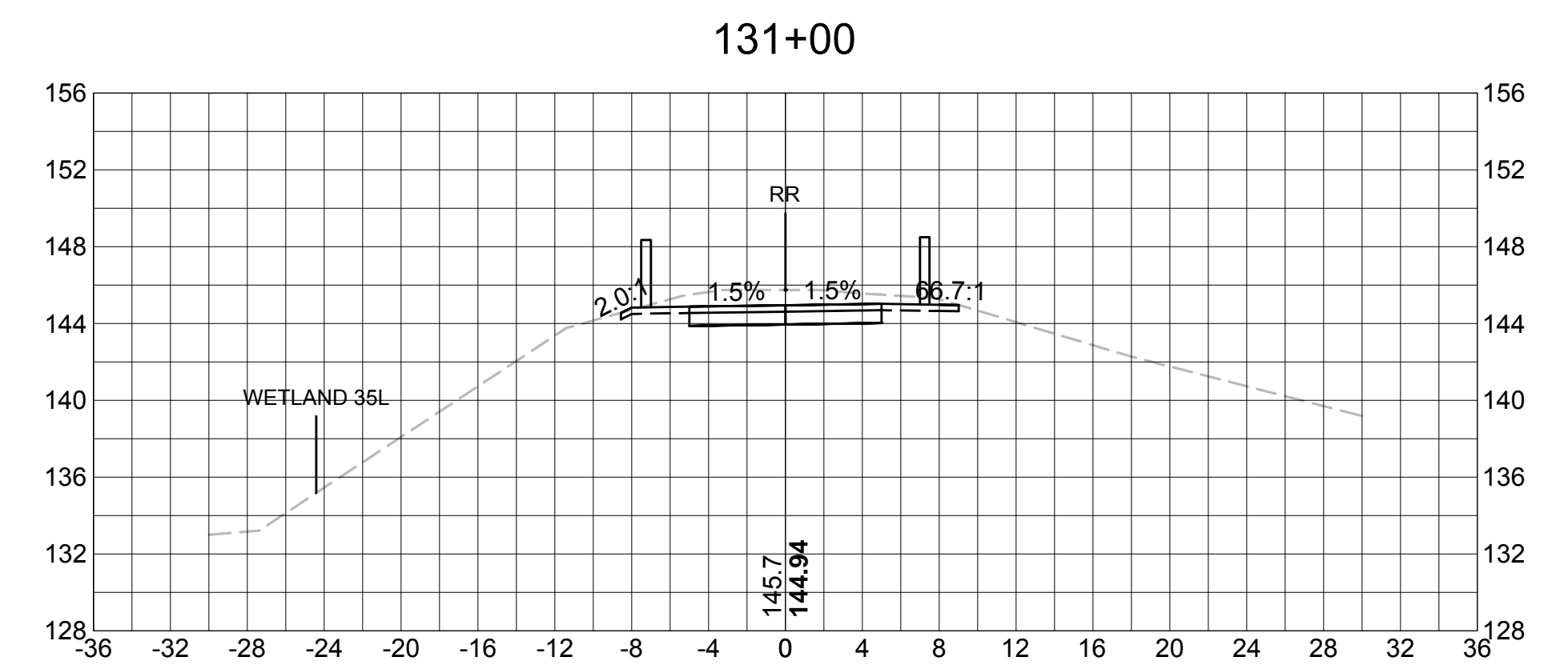
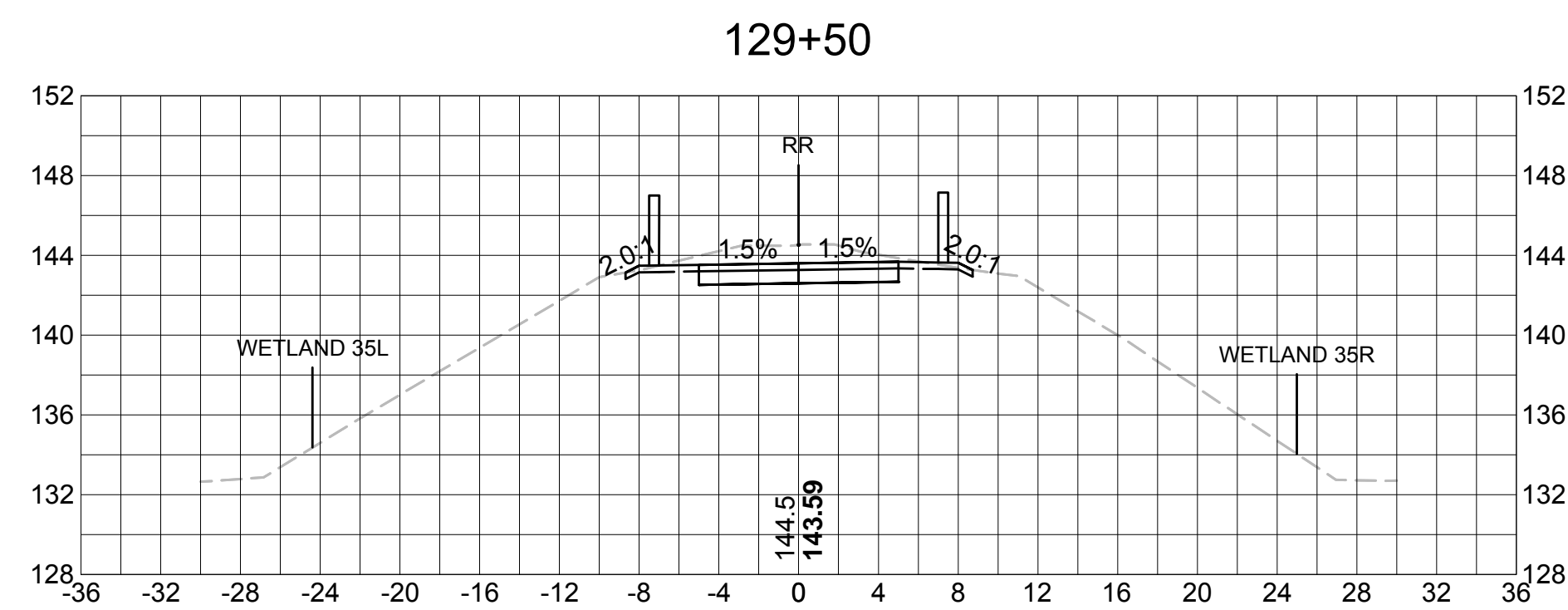
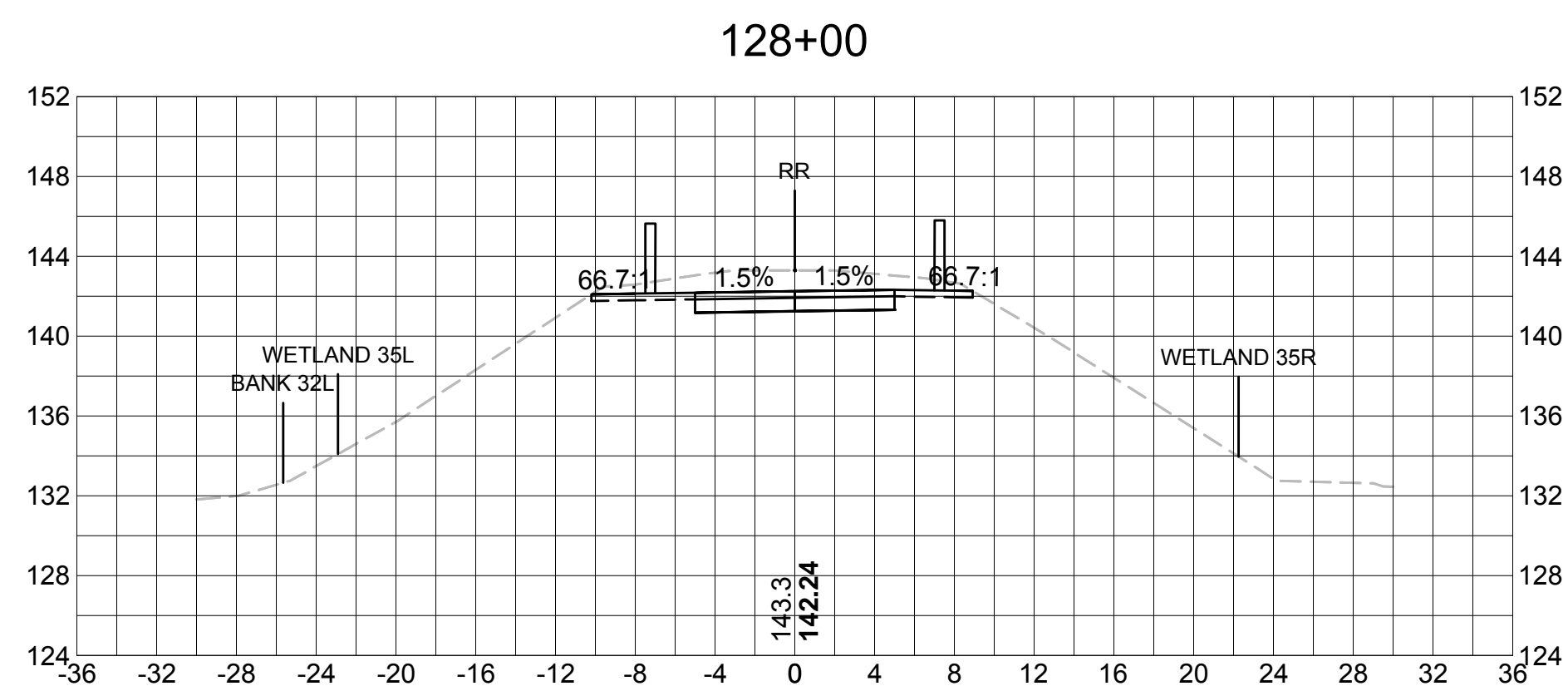
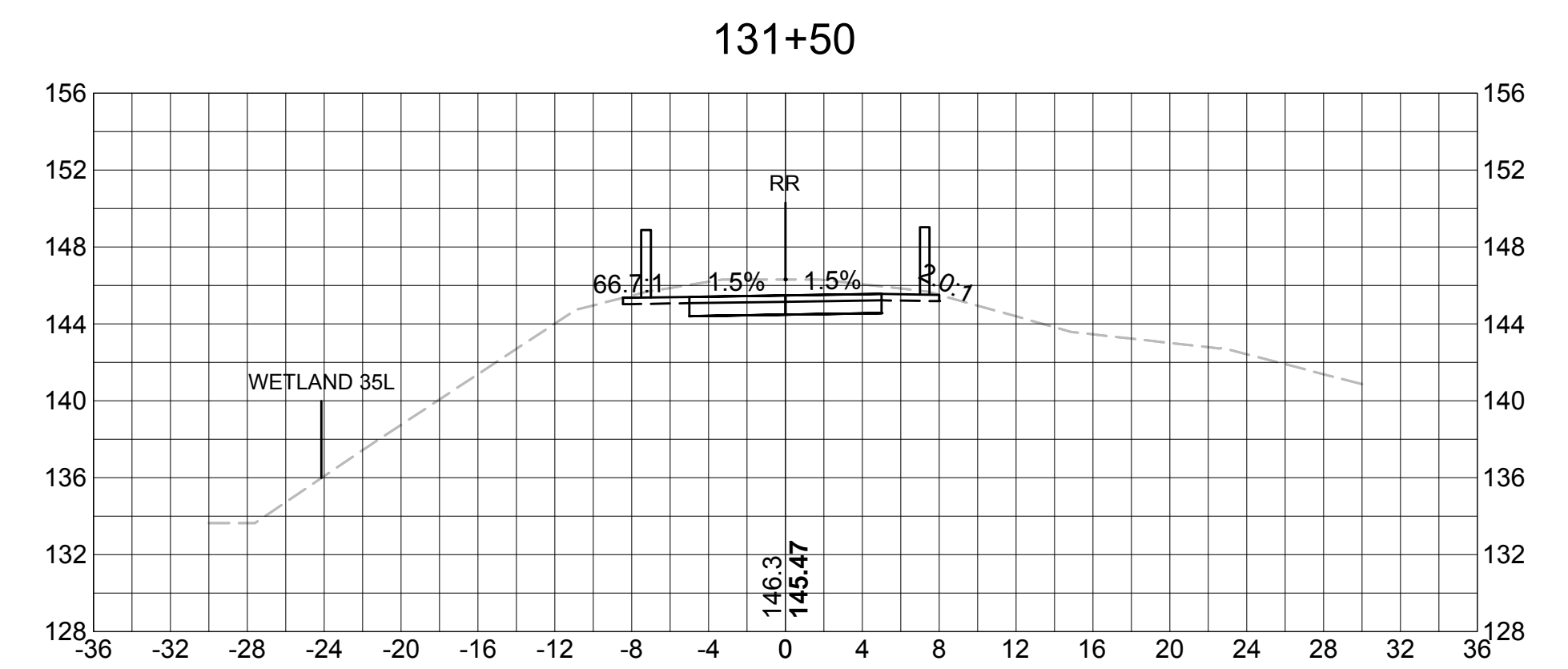
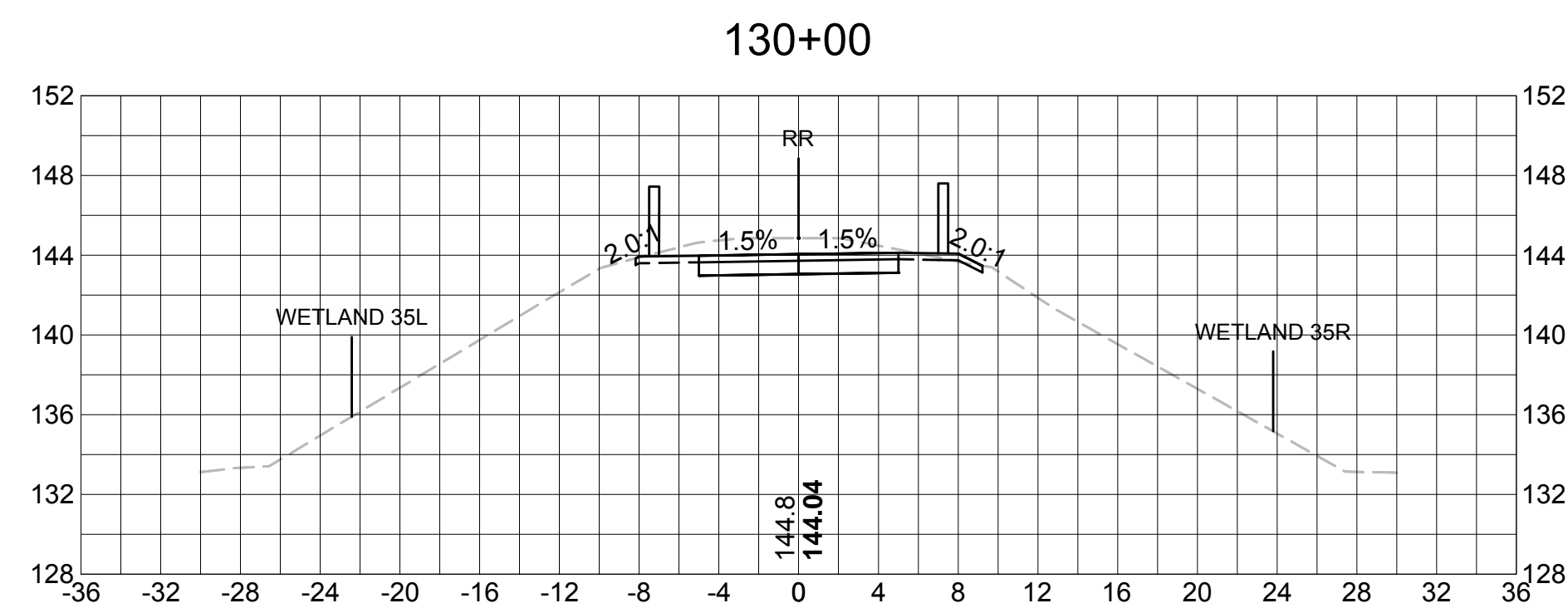
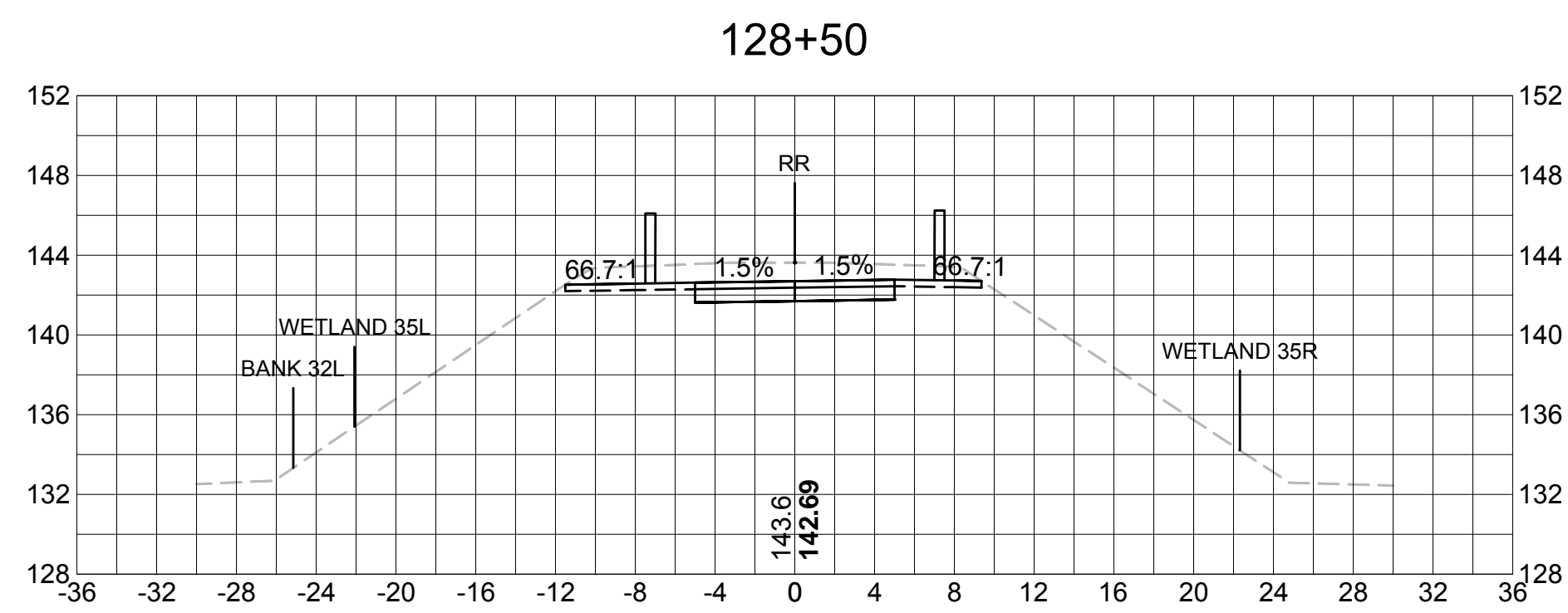
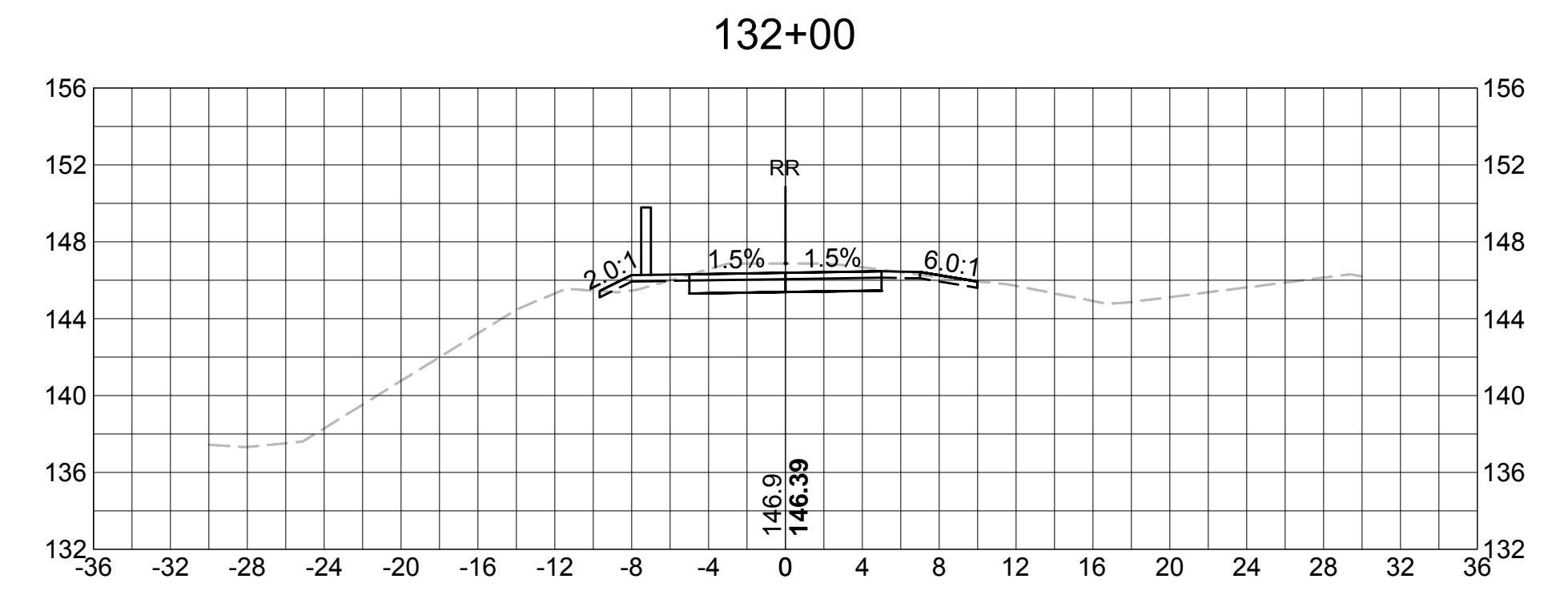
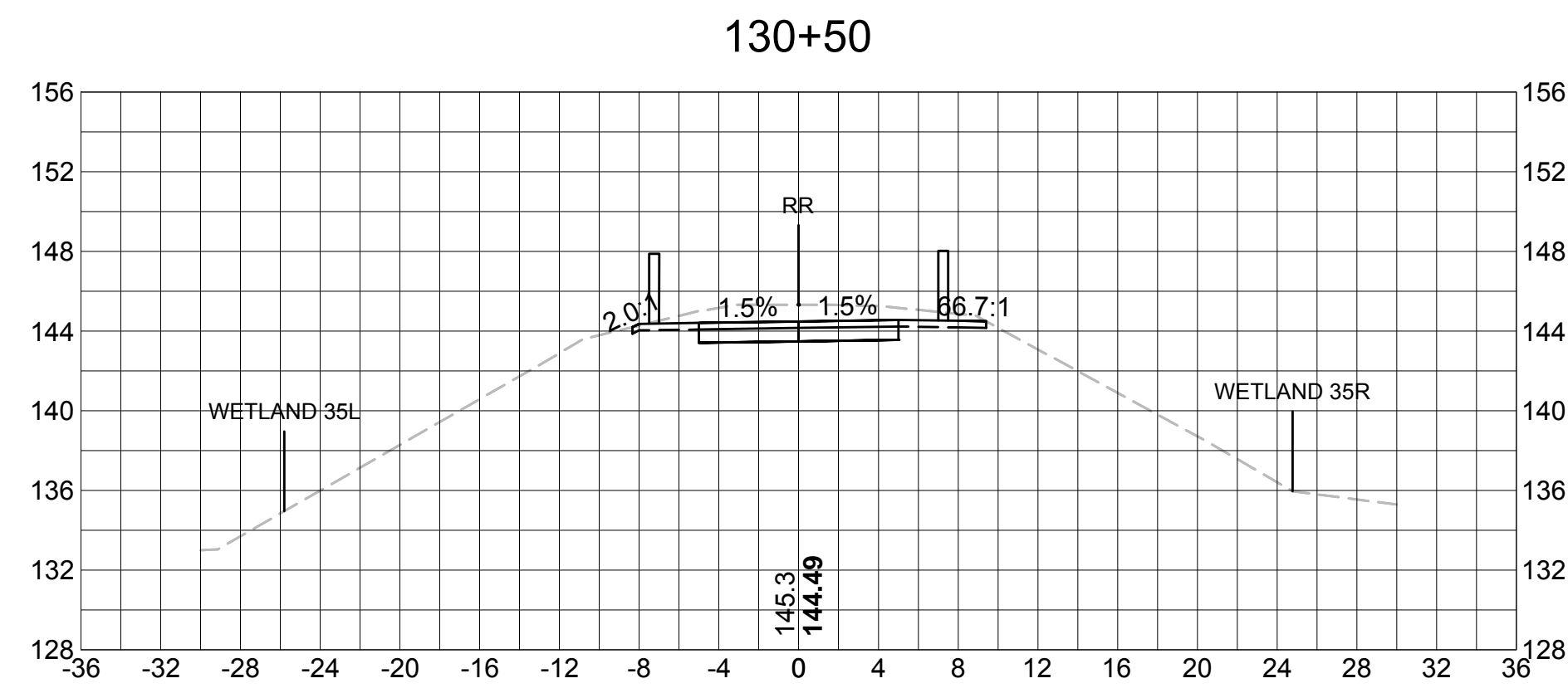
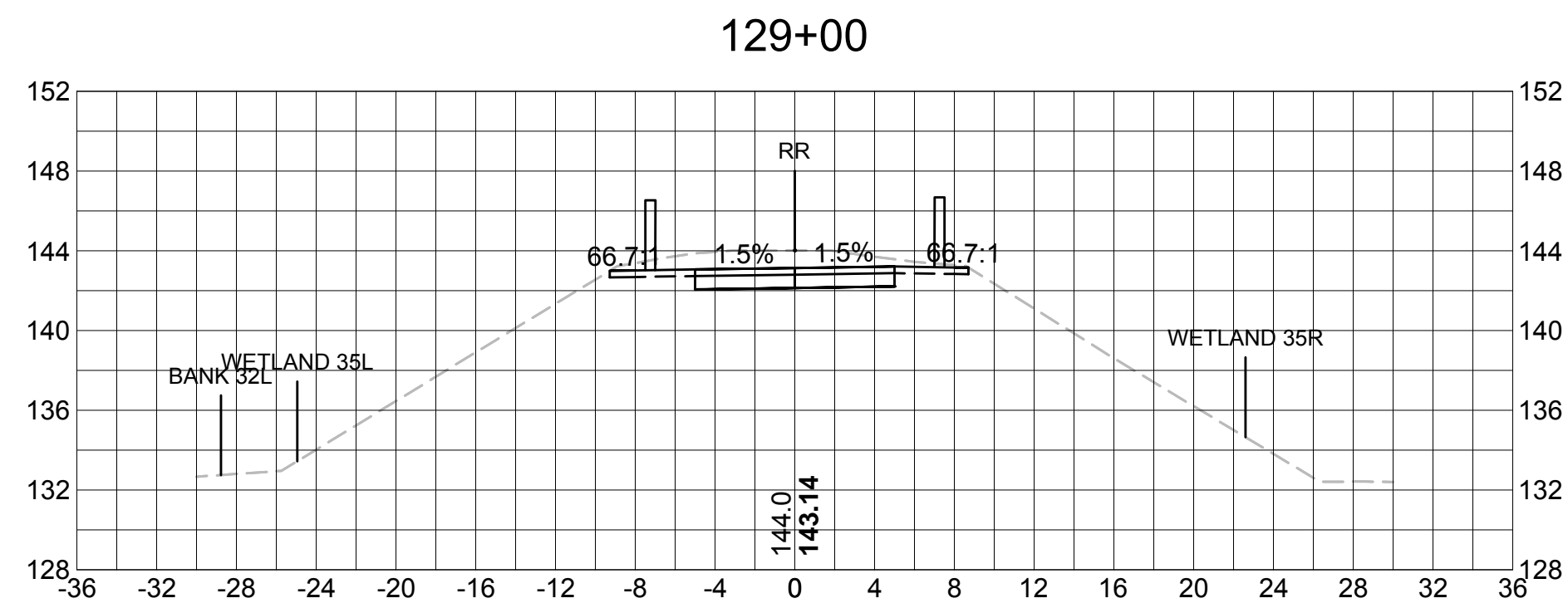




SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	86	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

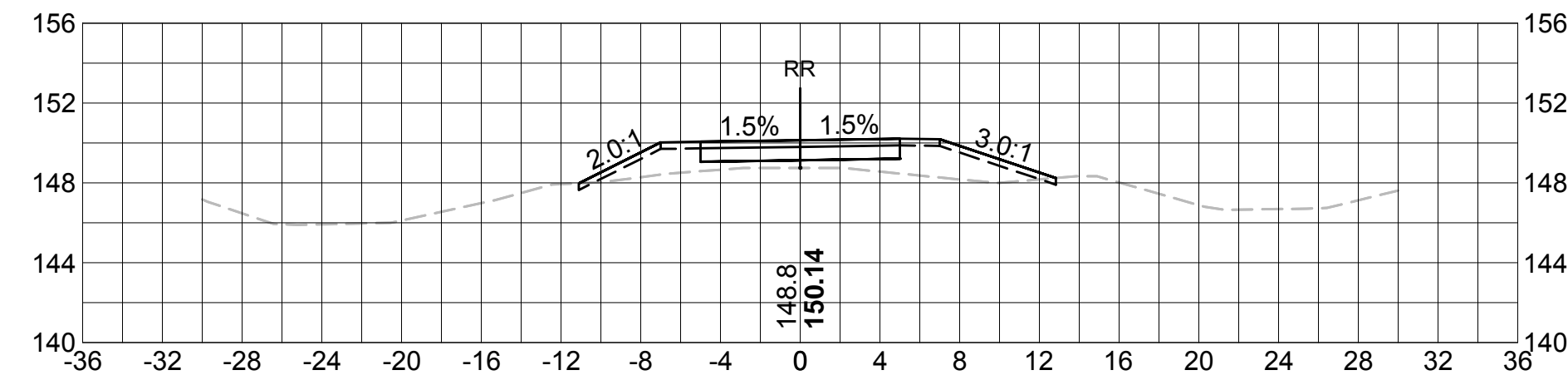


SUDBURY
BRUCE FREEMAN RAIL TRAIL

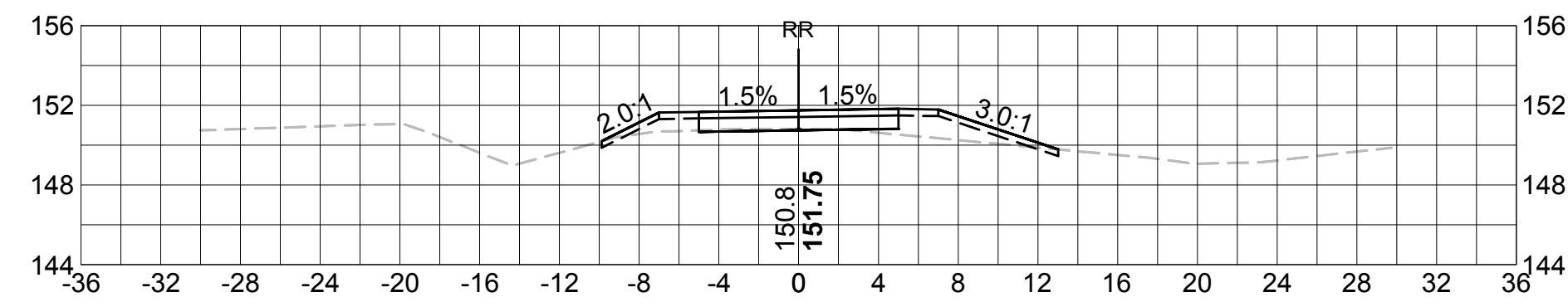
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	87	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

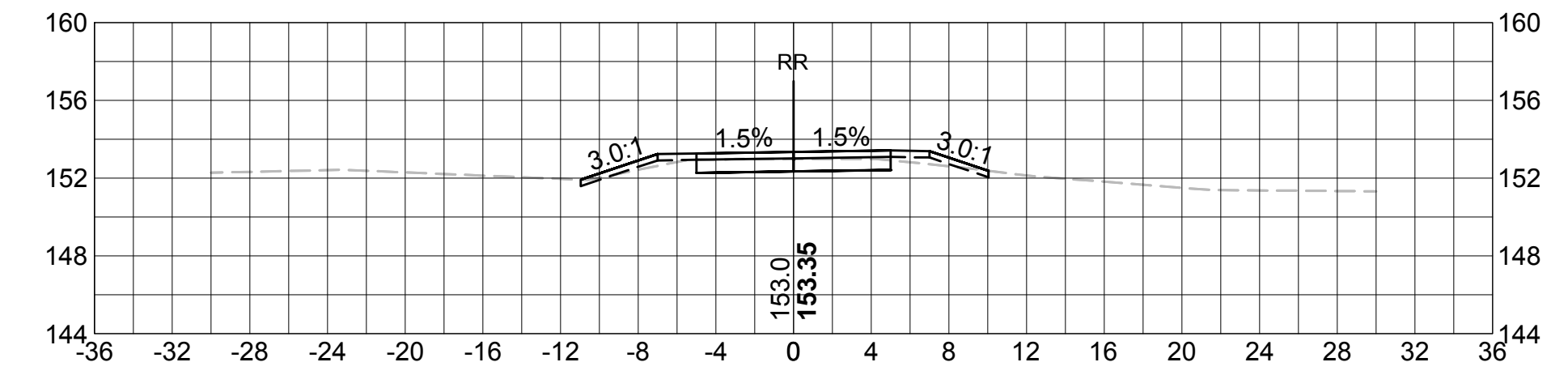
134+00



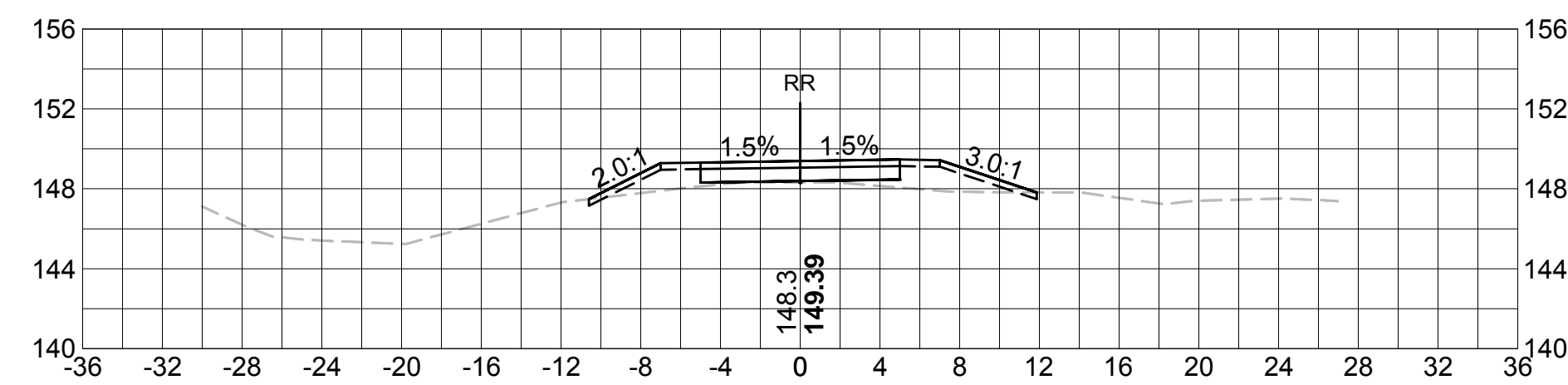
136+00



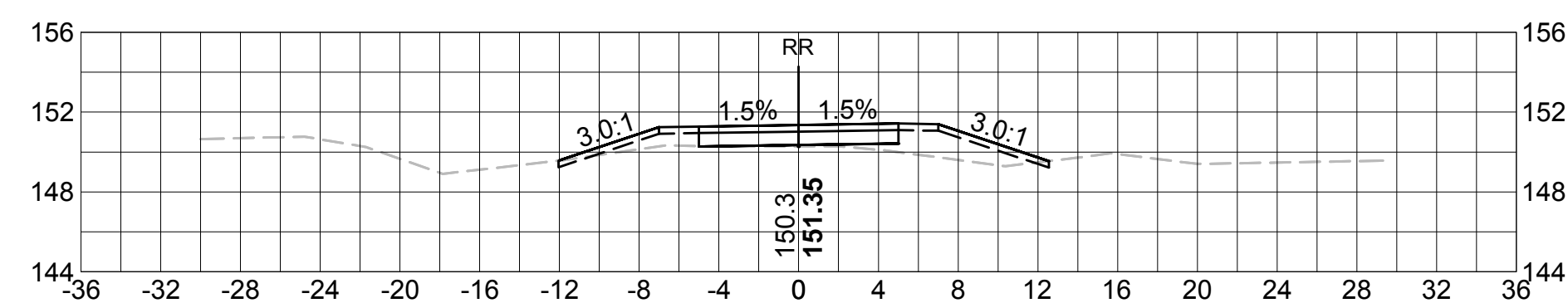
138+00



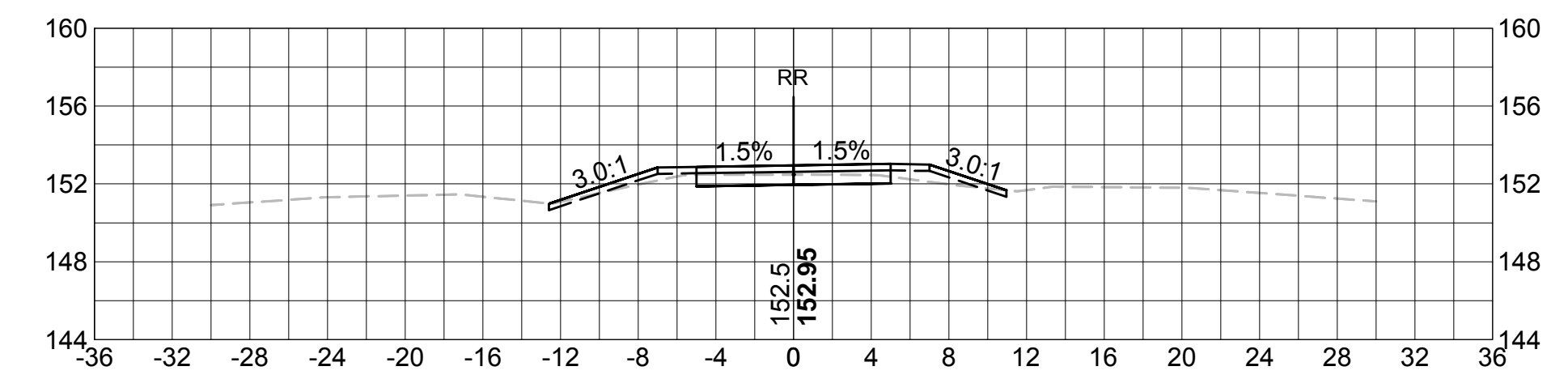
133+50



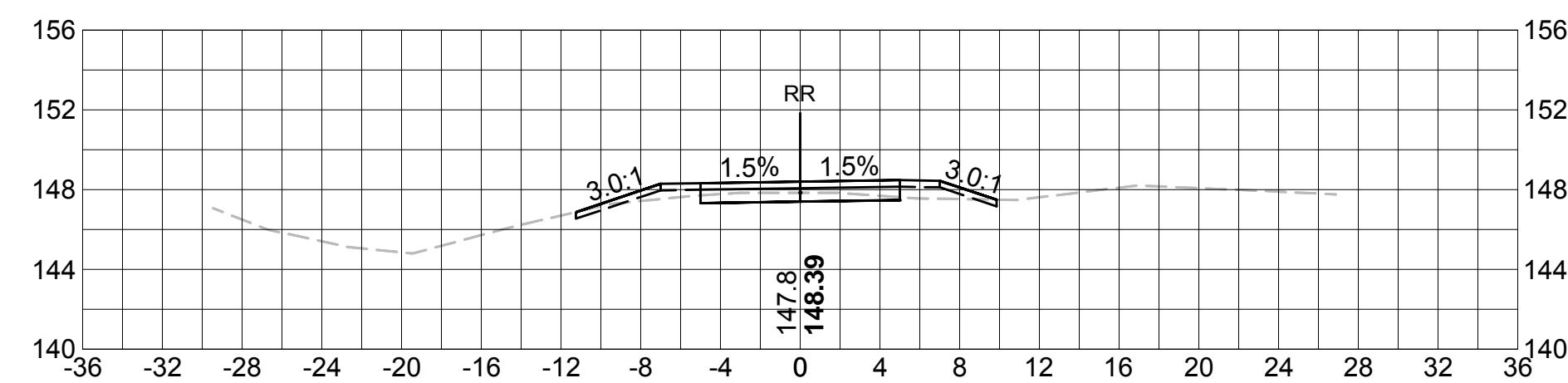
135+50



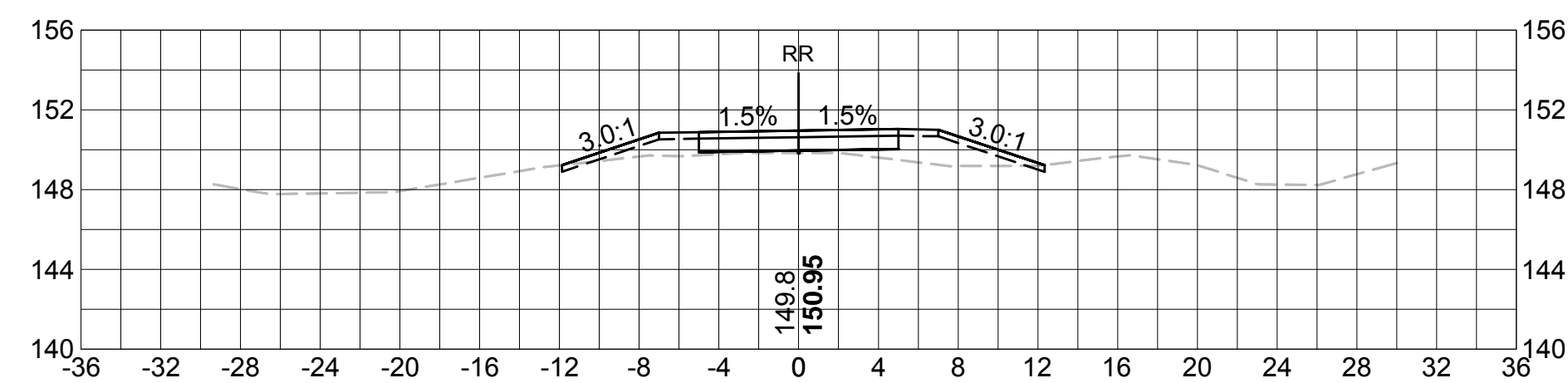
137+50



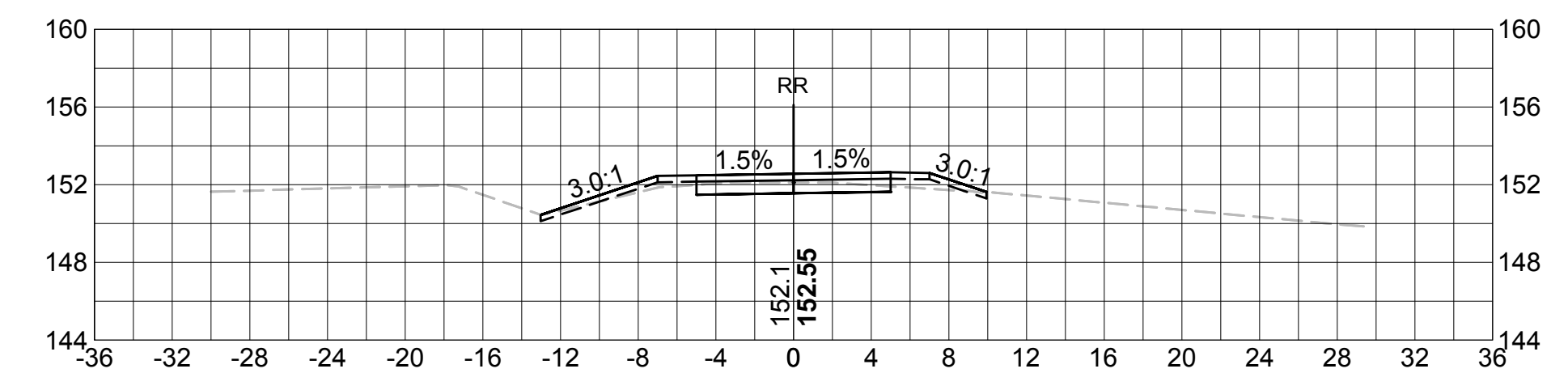
133+00



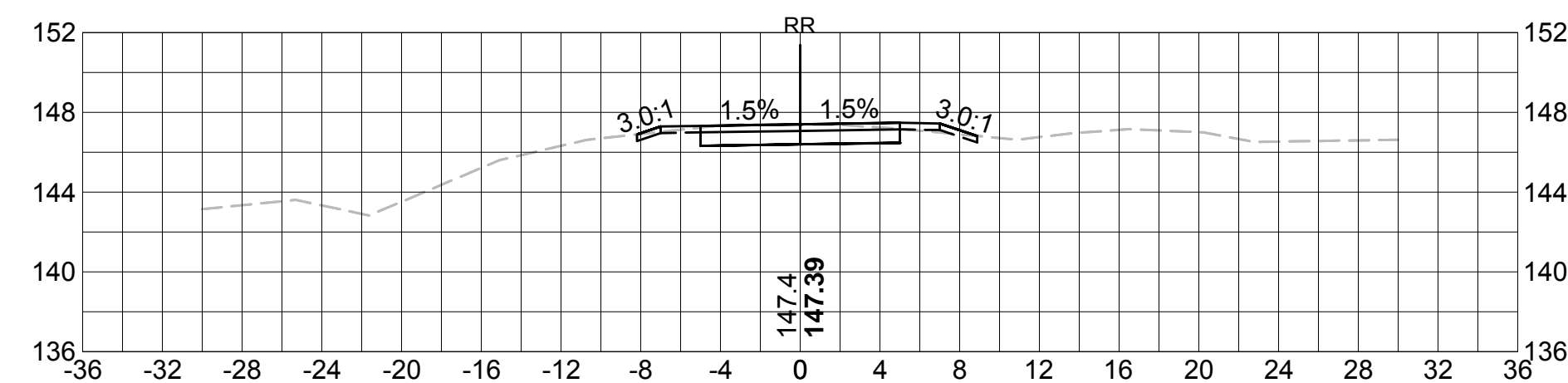
135+00



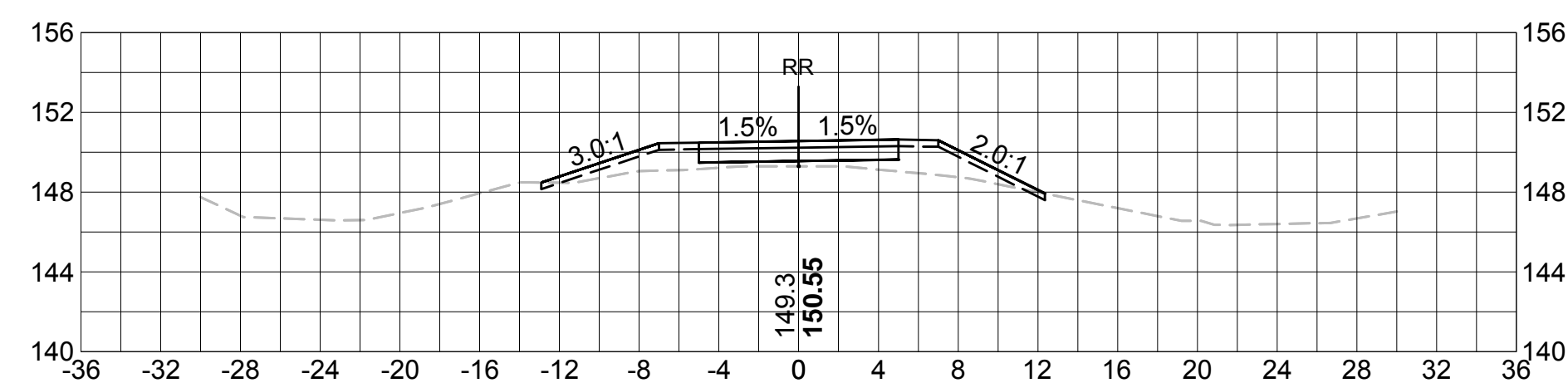
137+00



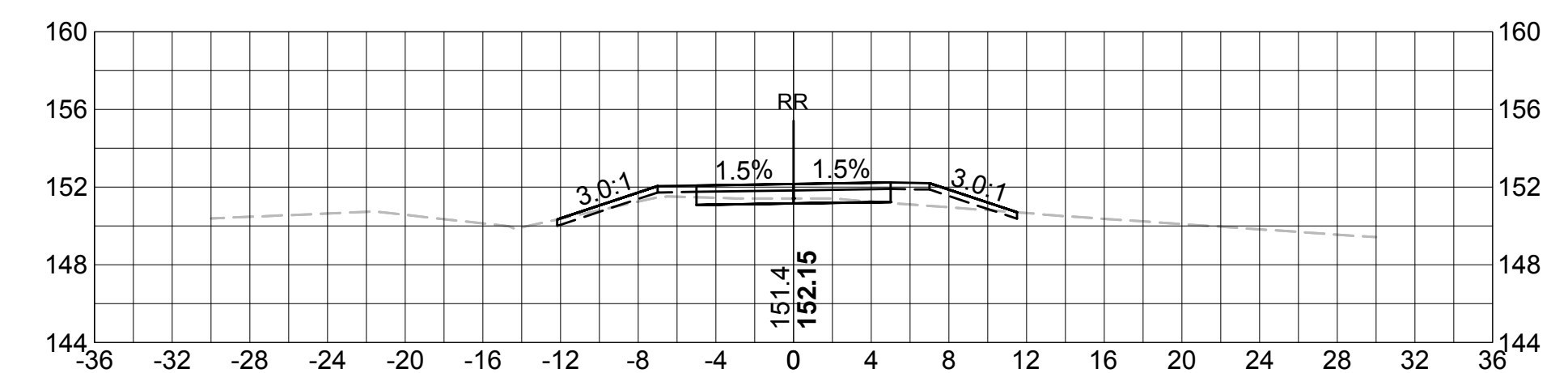
132+50



134+50

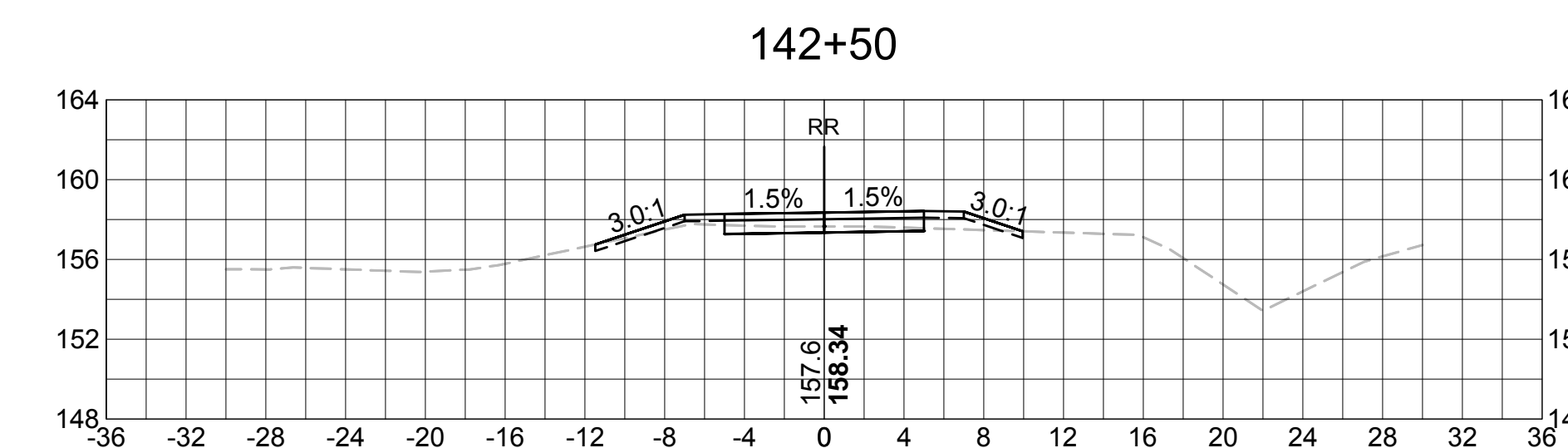
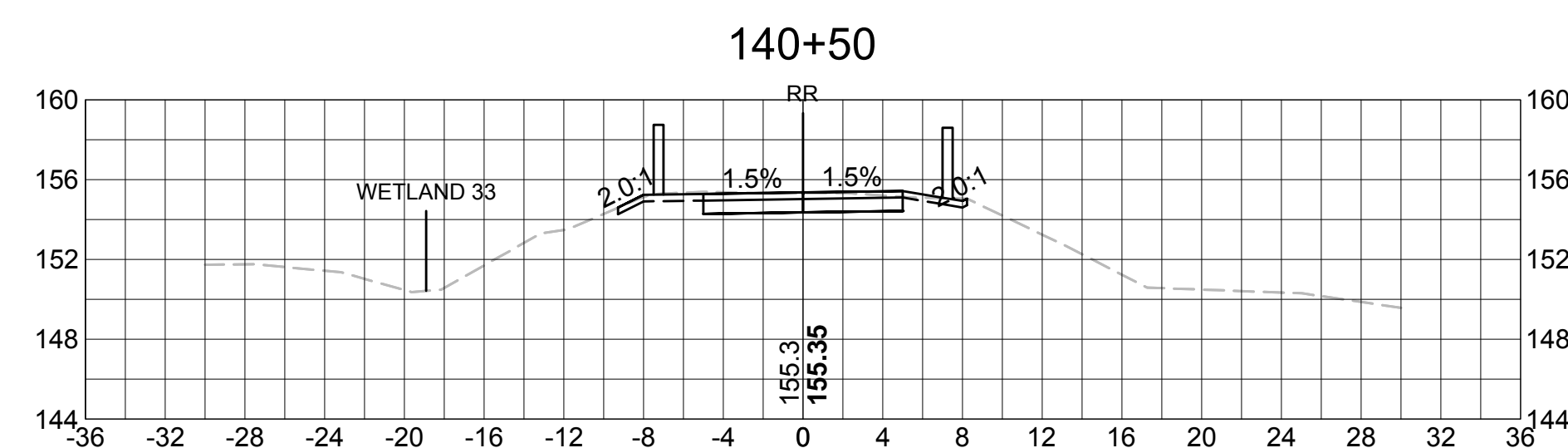
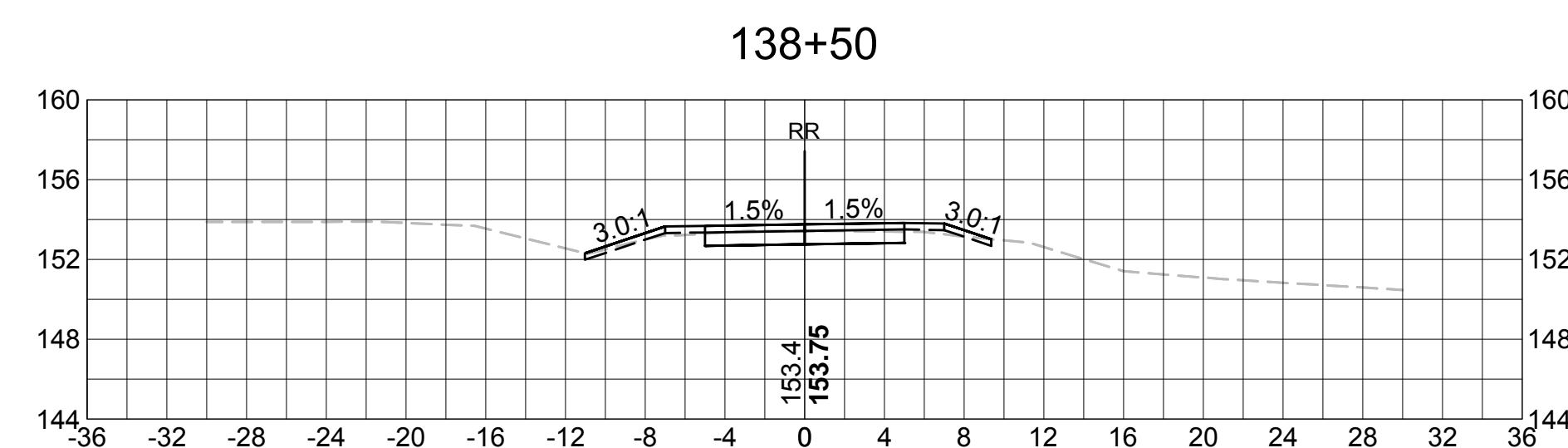
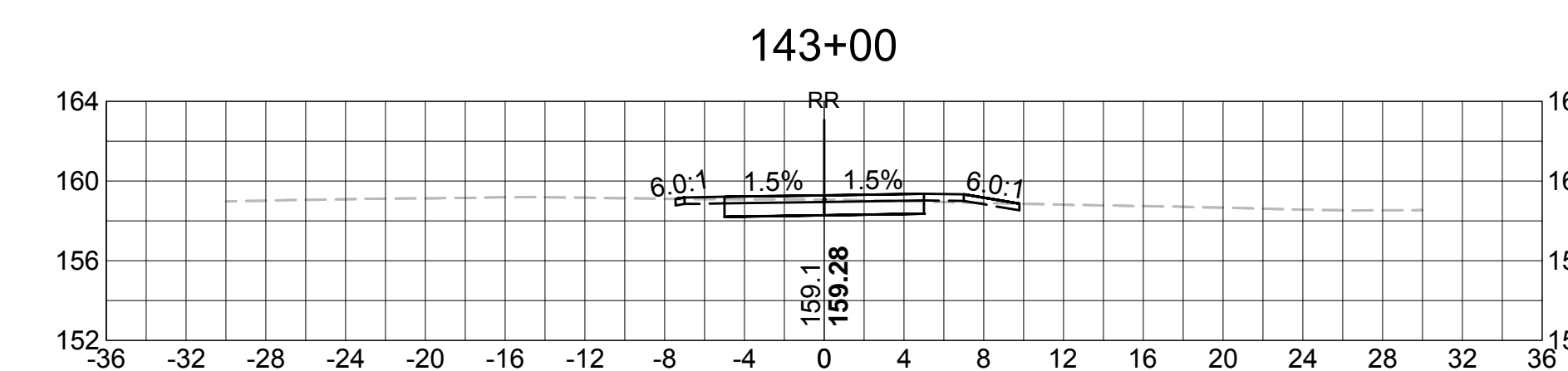
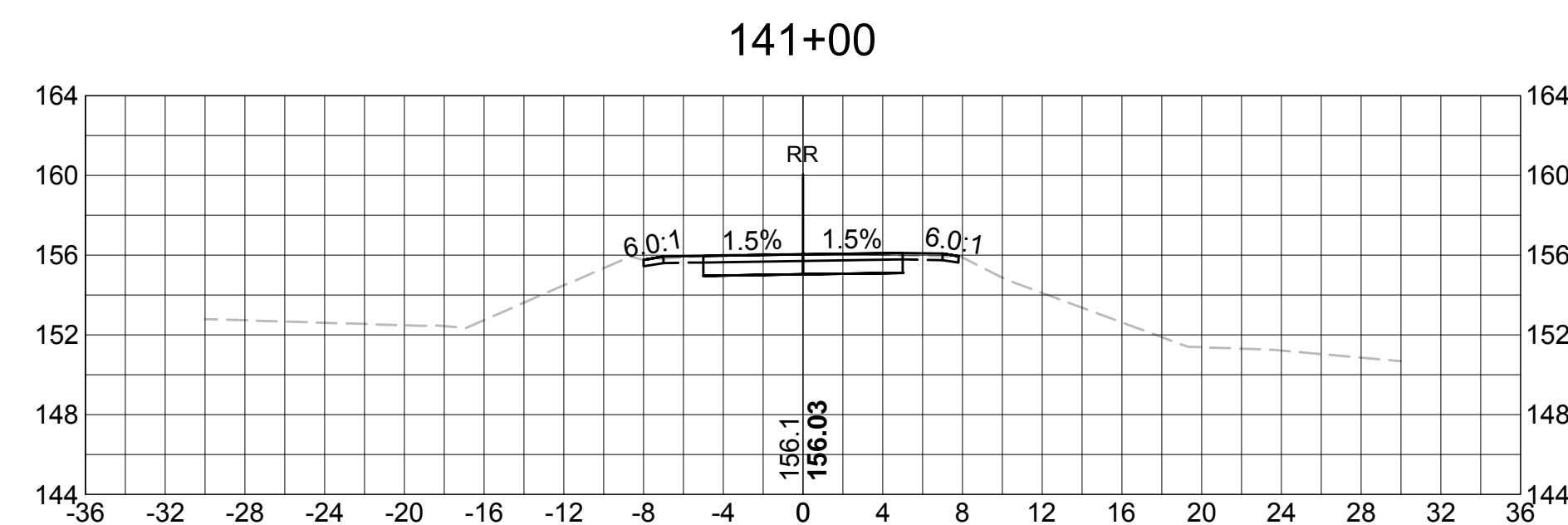
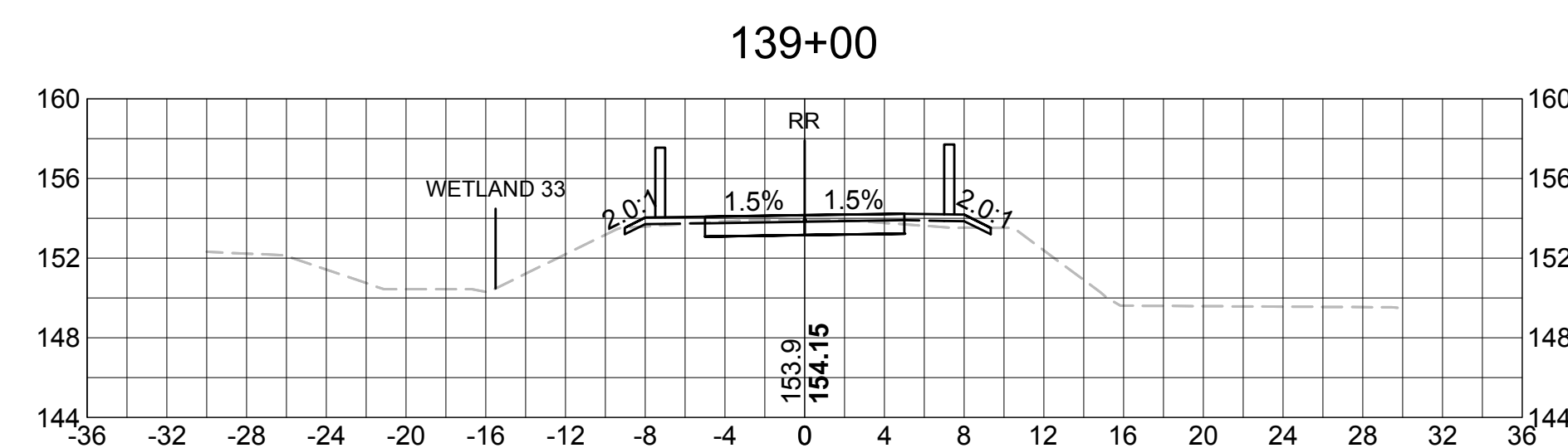
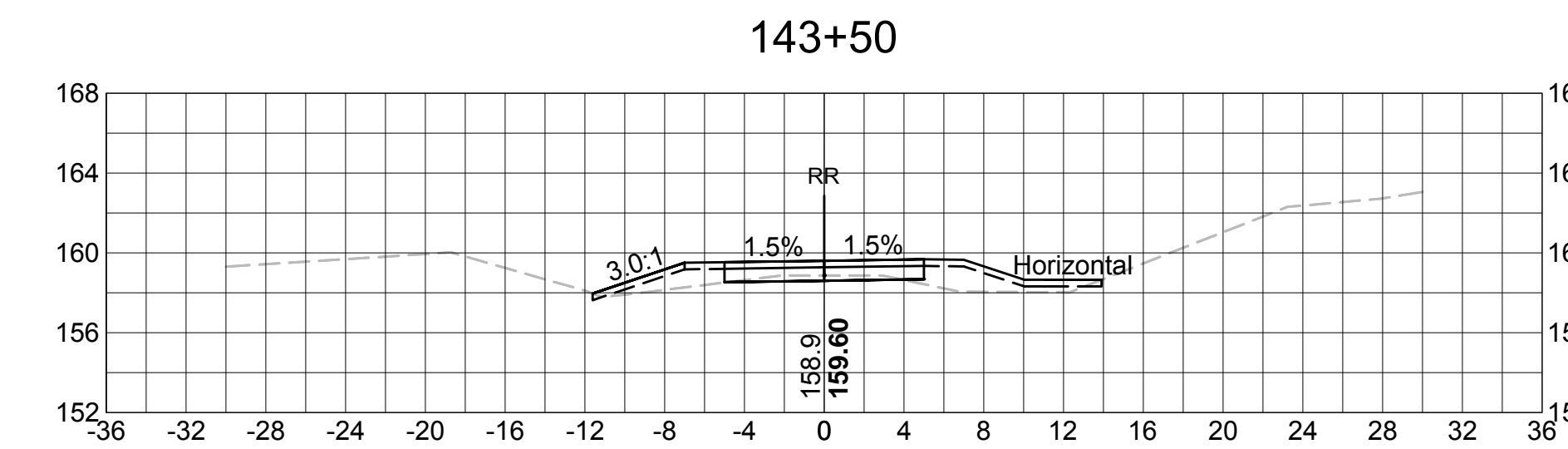
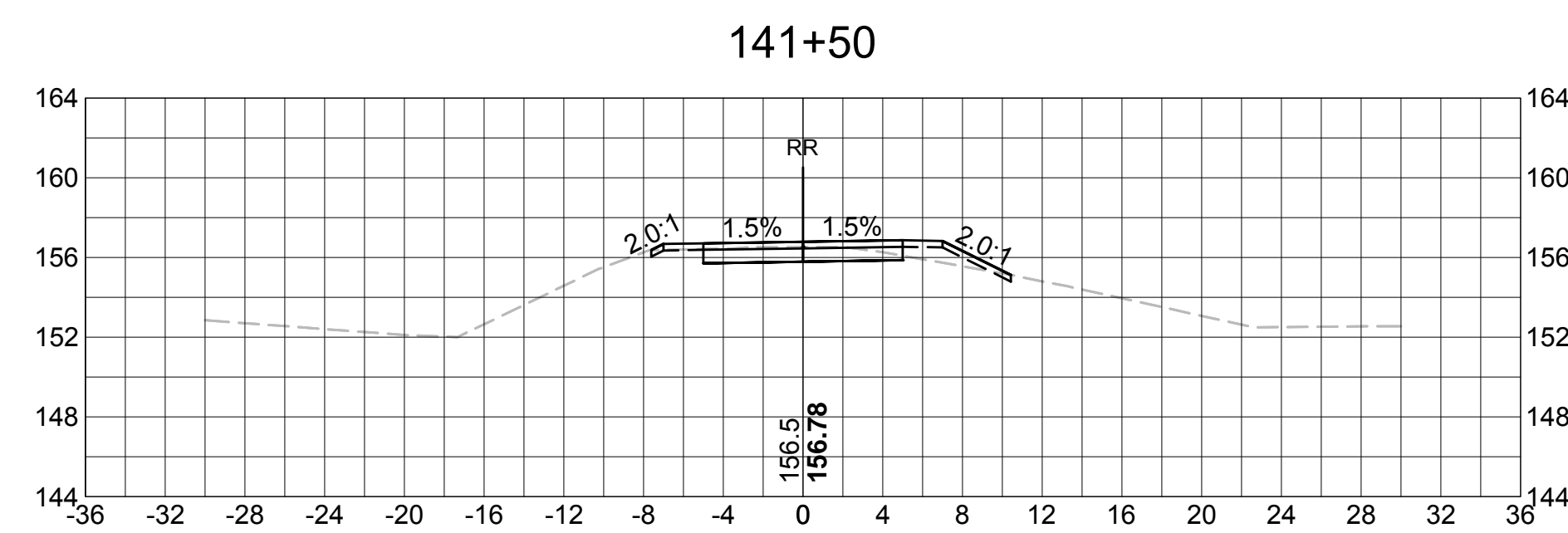
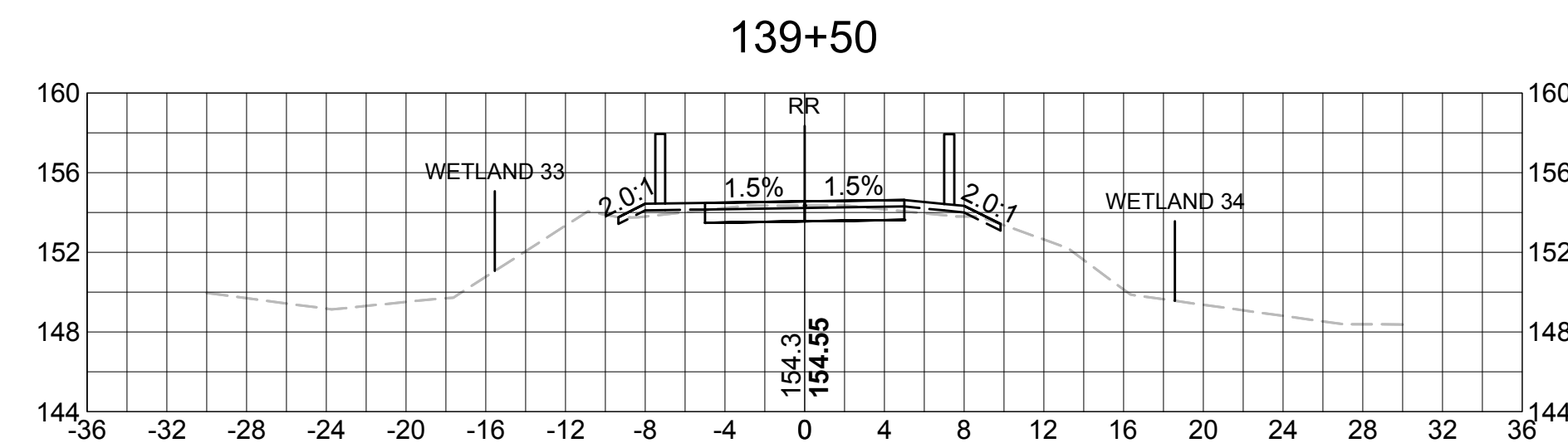
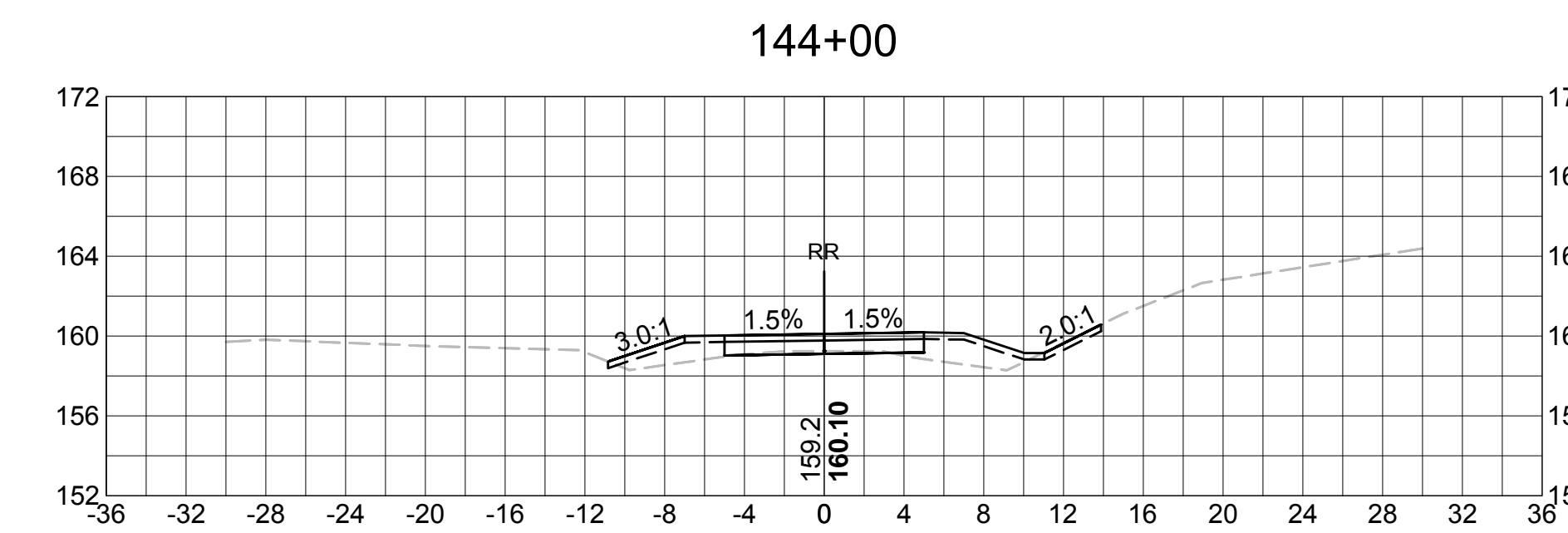
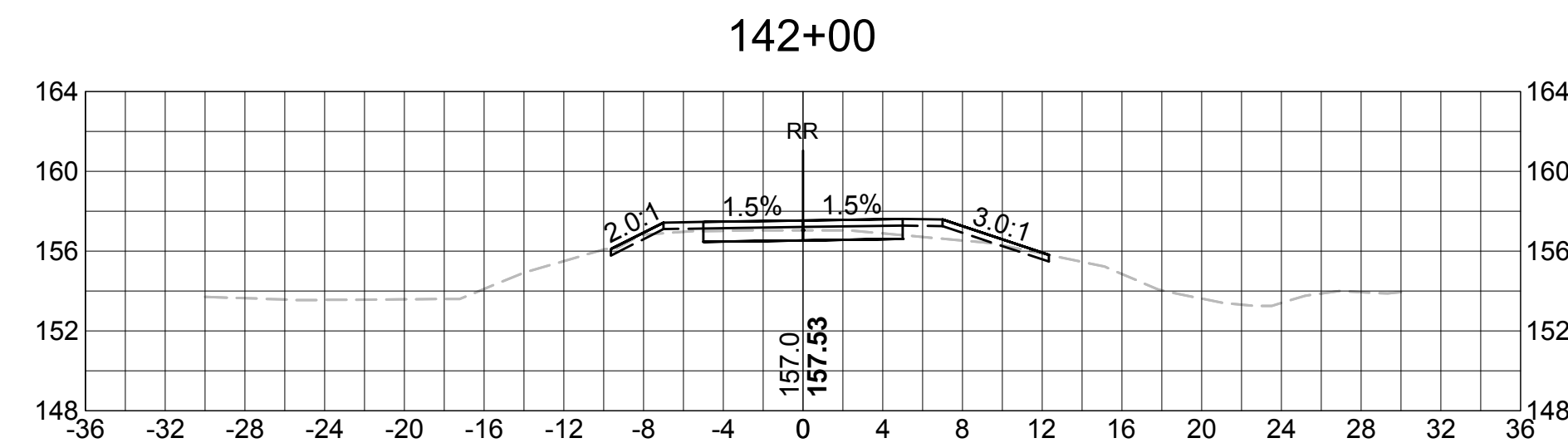
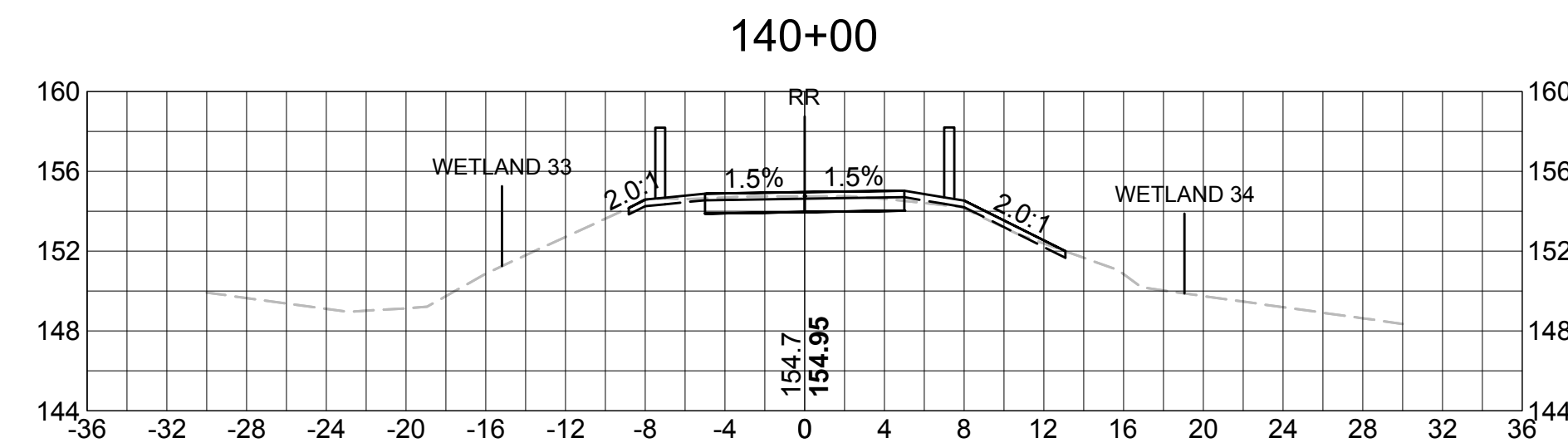


136+50



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	88	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

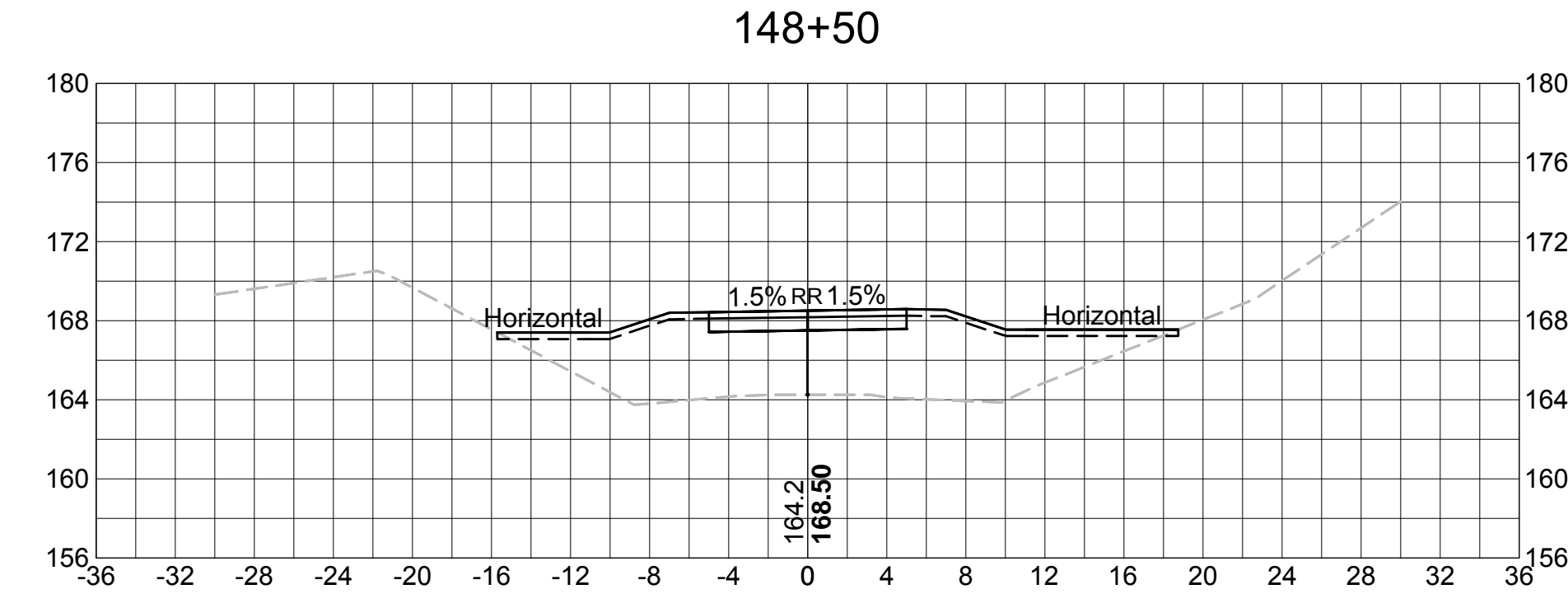
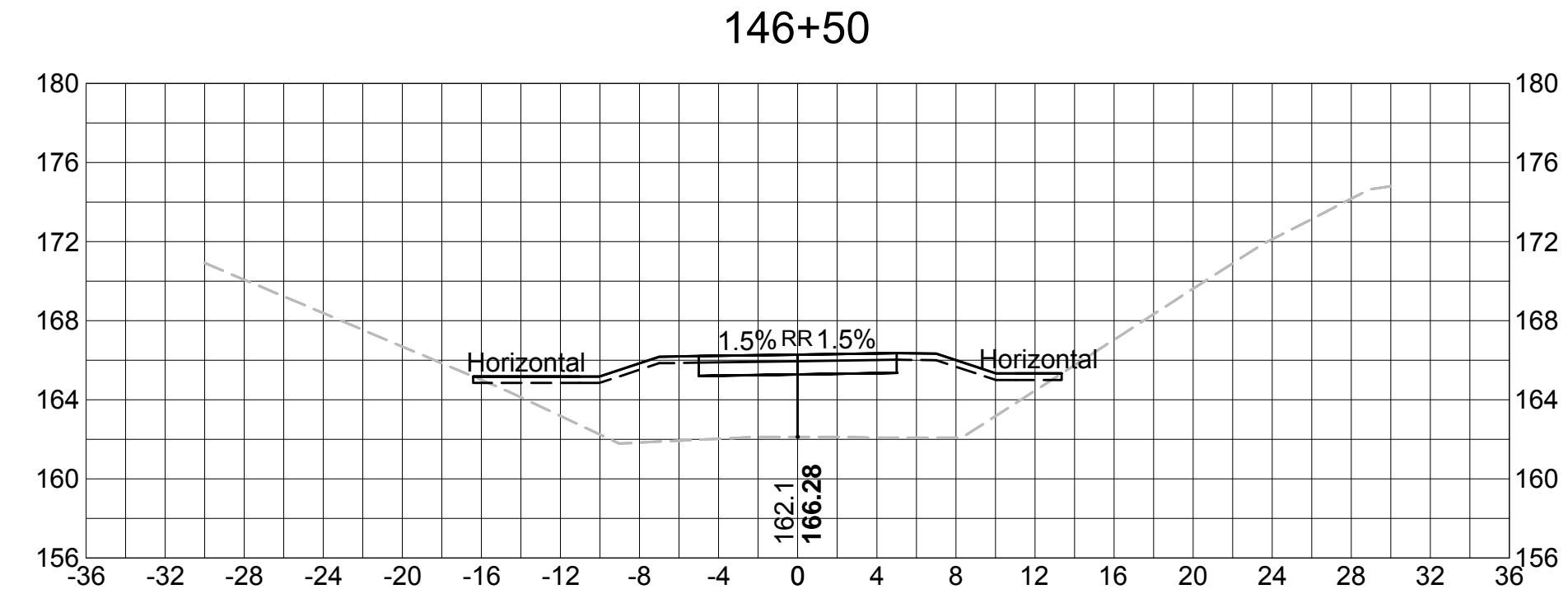
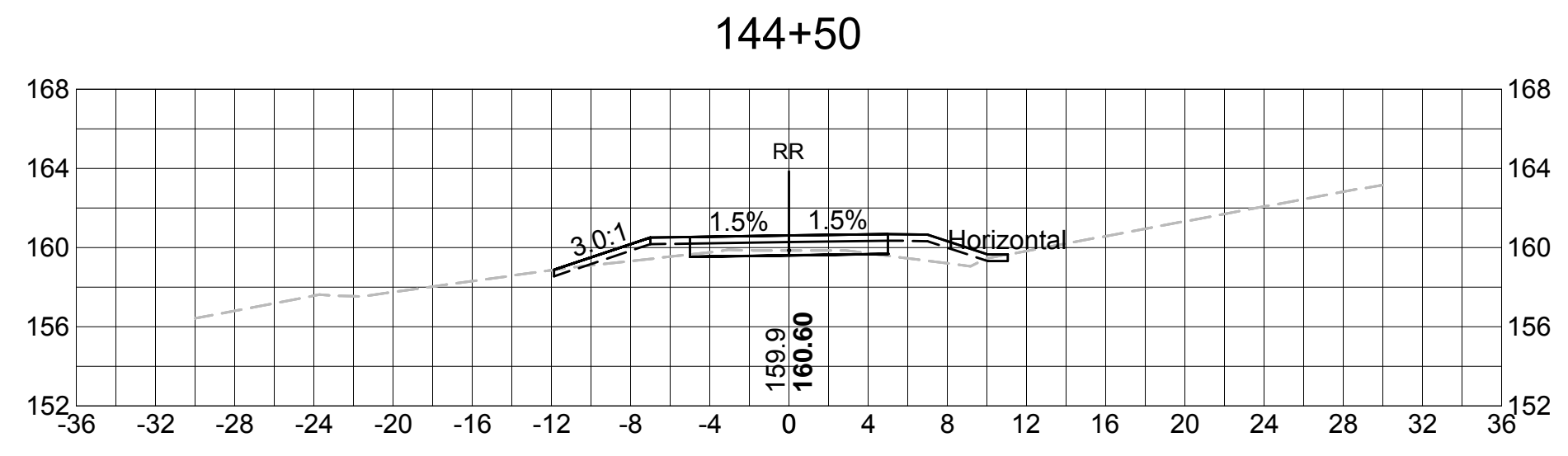
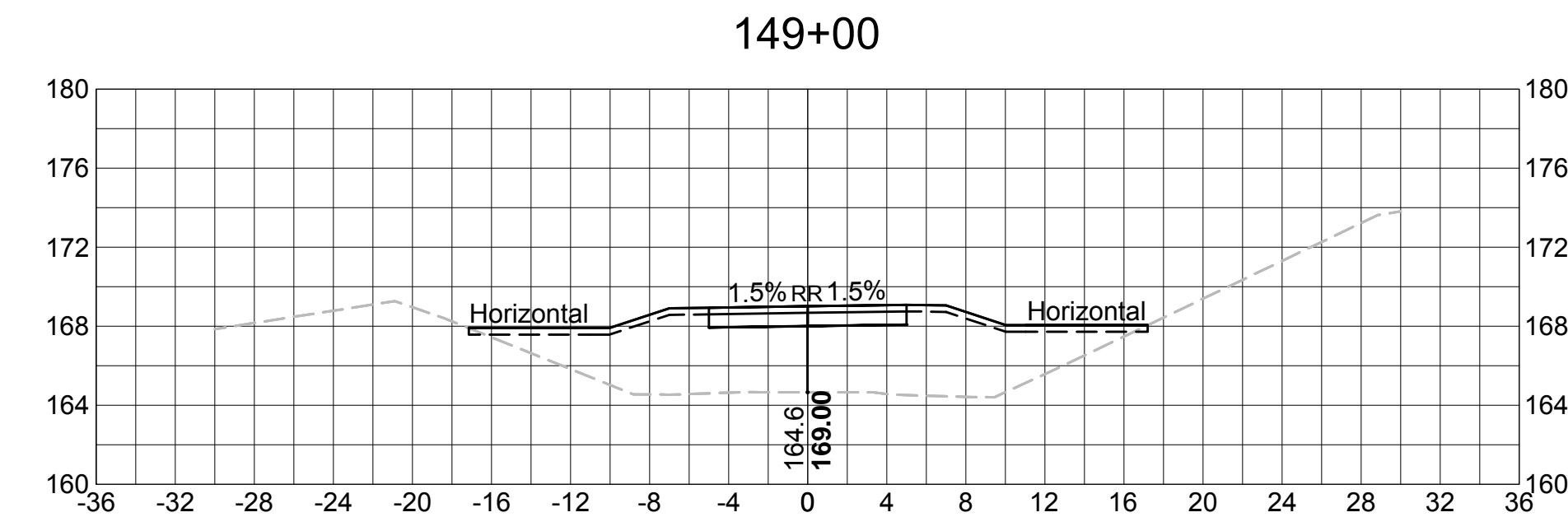
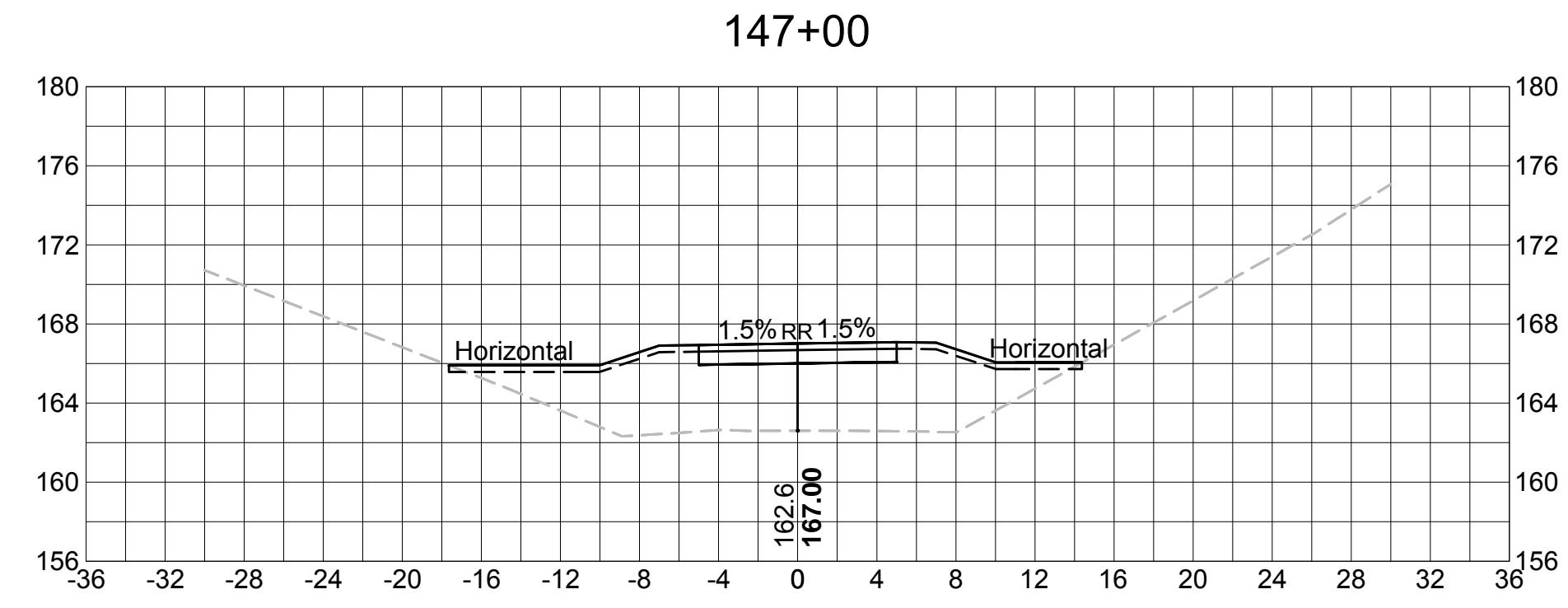
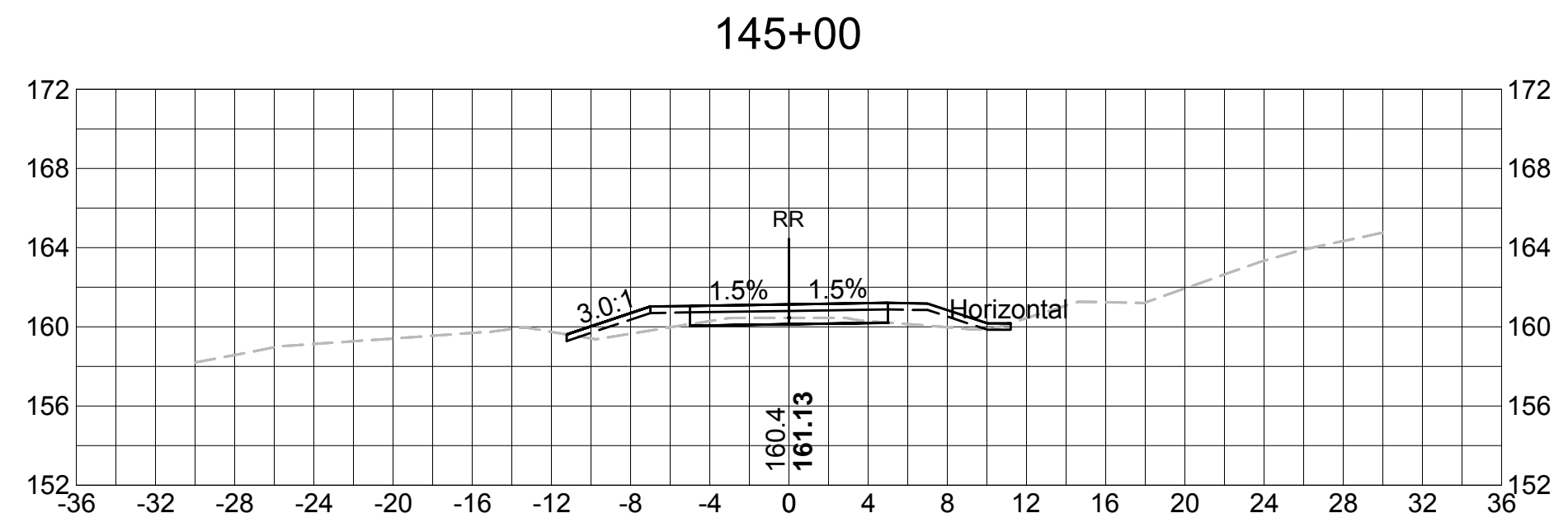
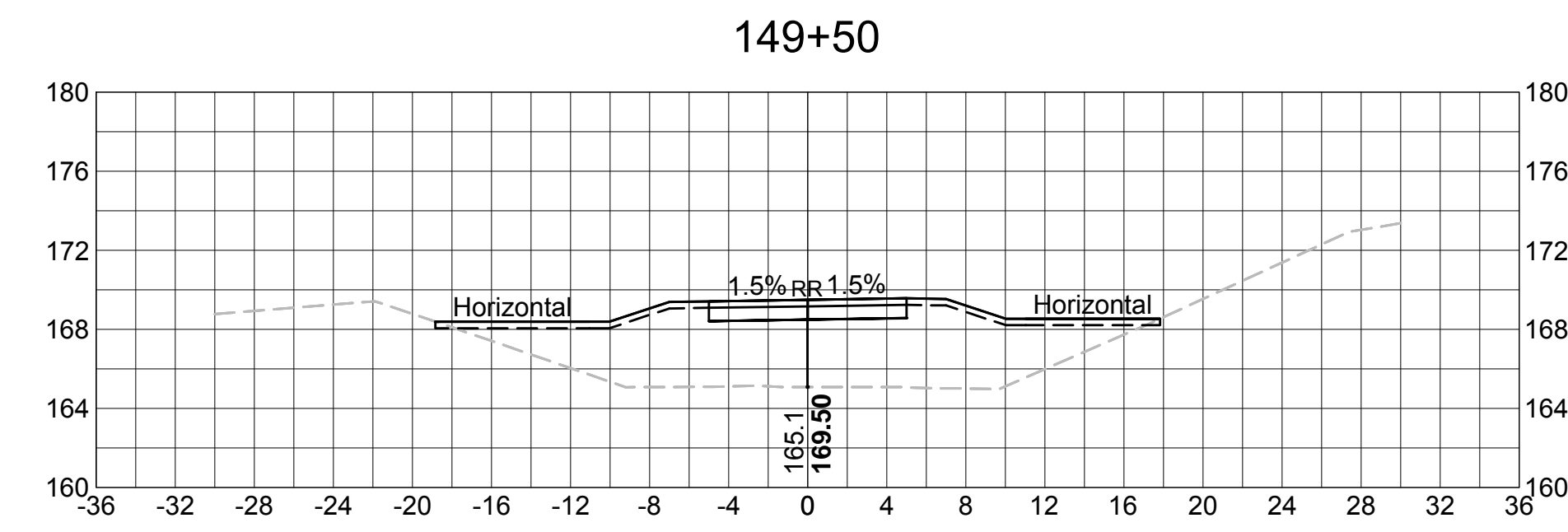
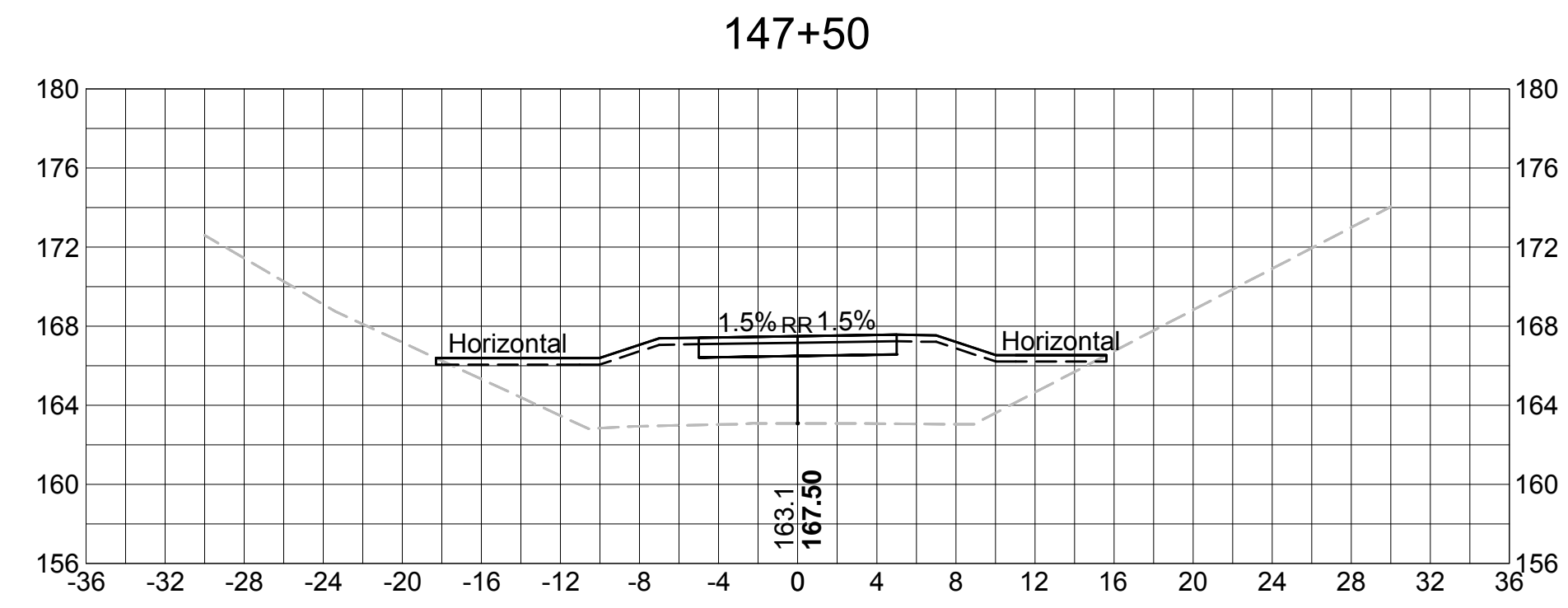
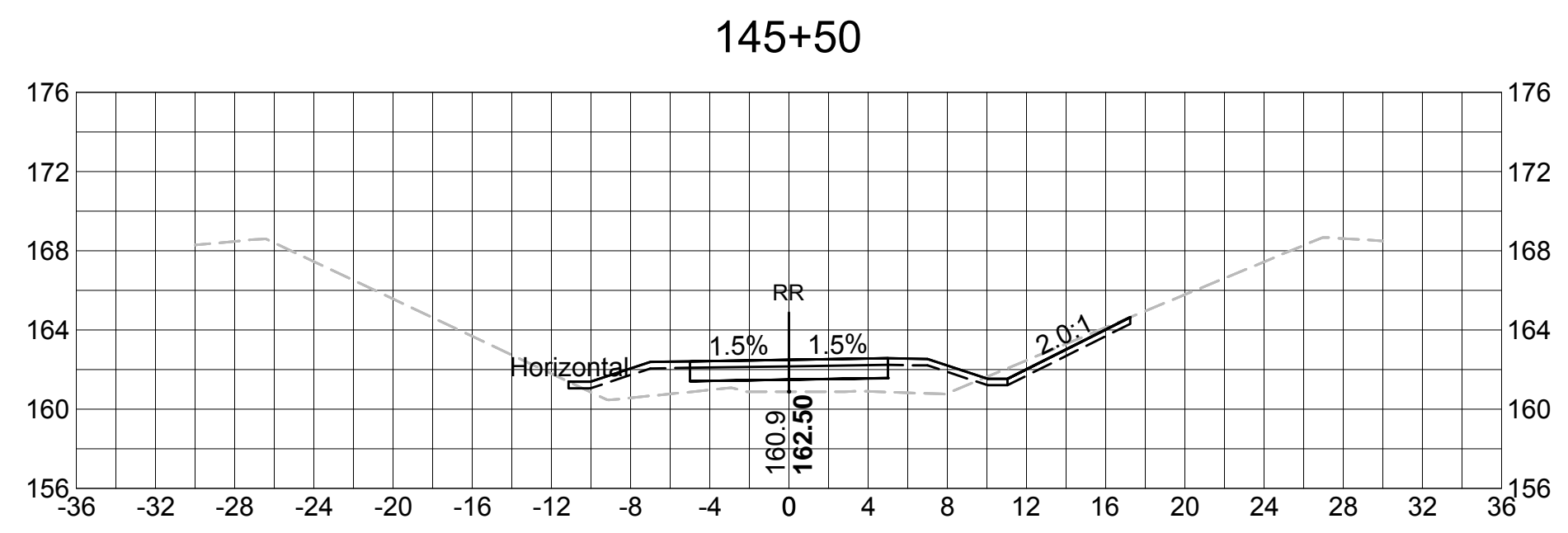
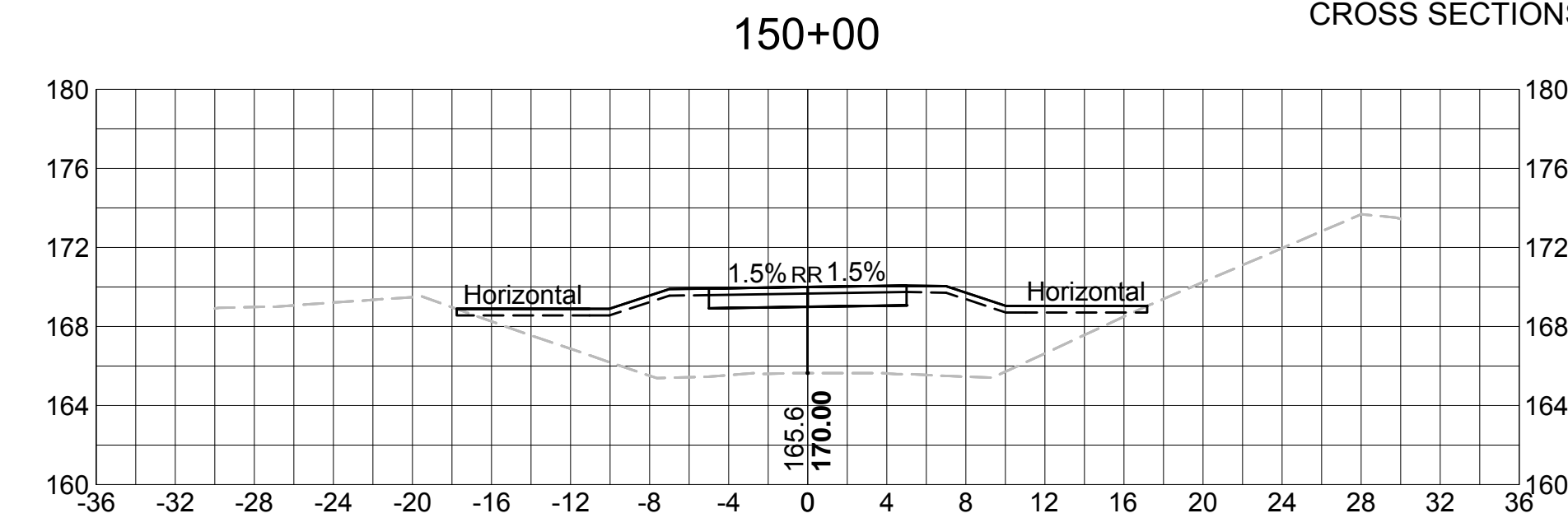
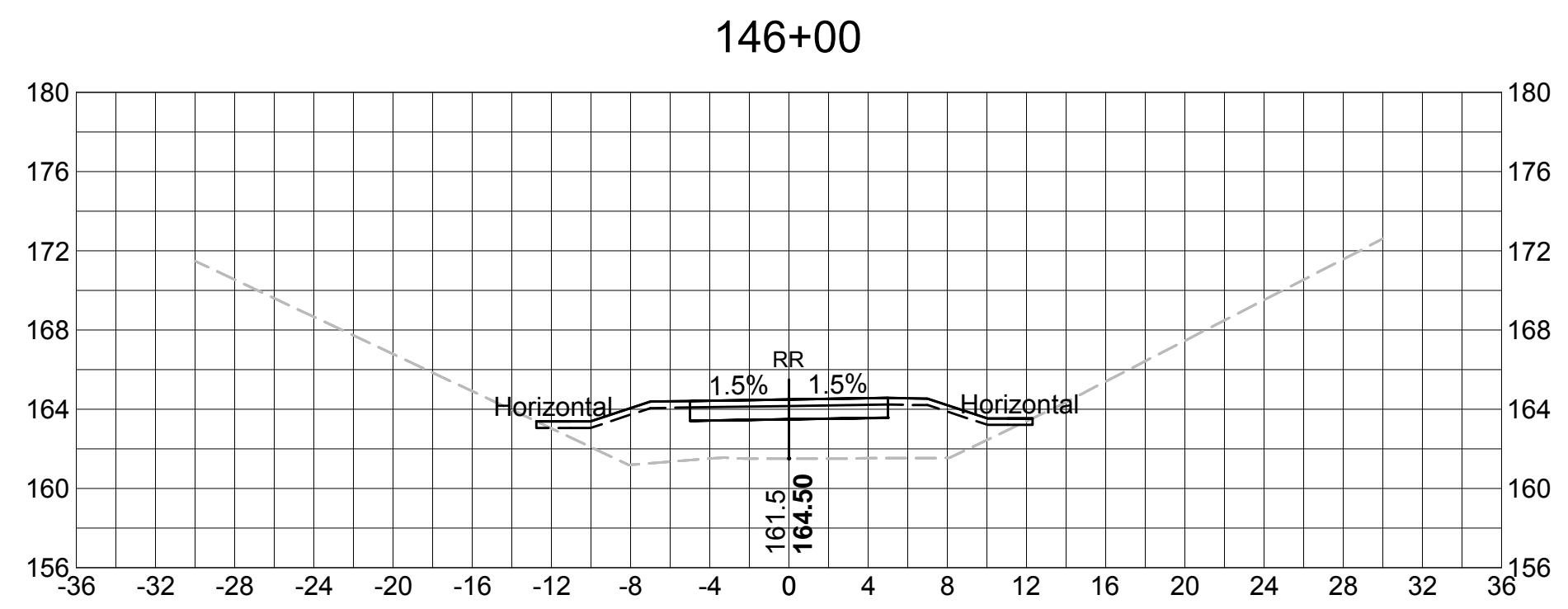


**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	89	123

PROJECT FILE NO. 608164

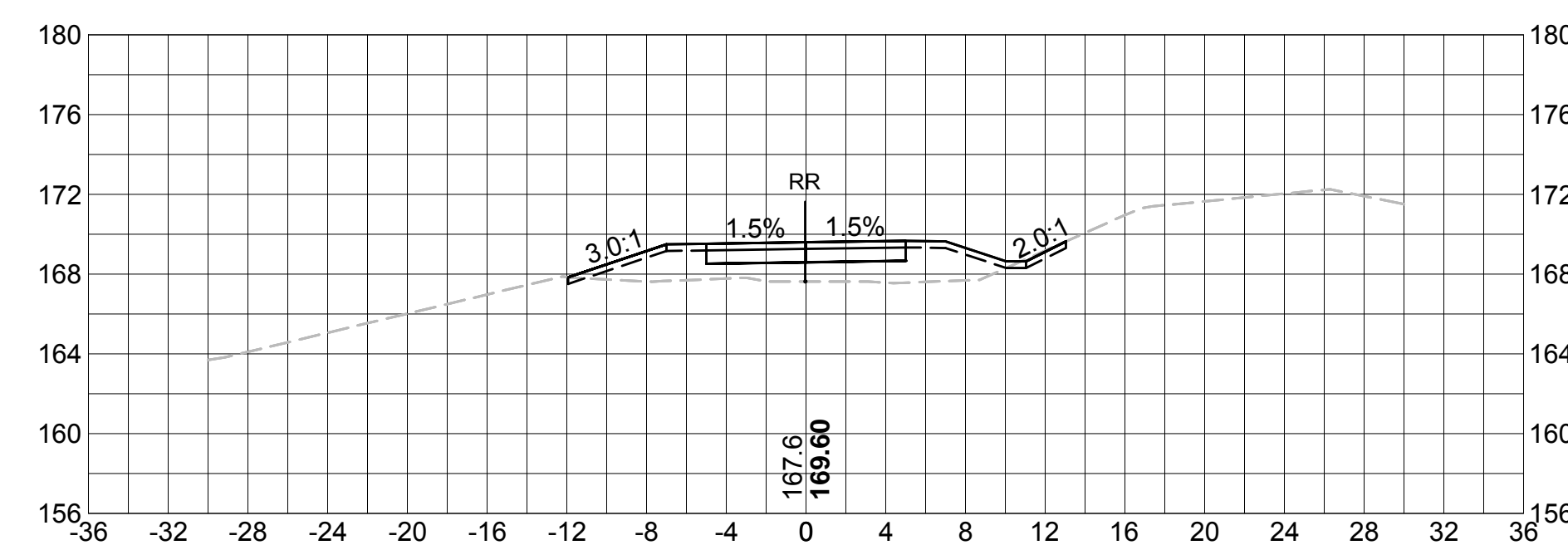
CROSS SECTIONS



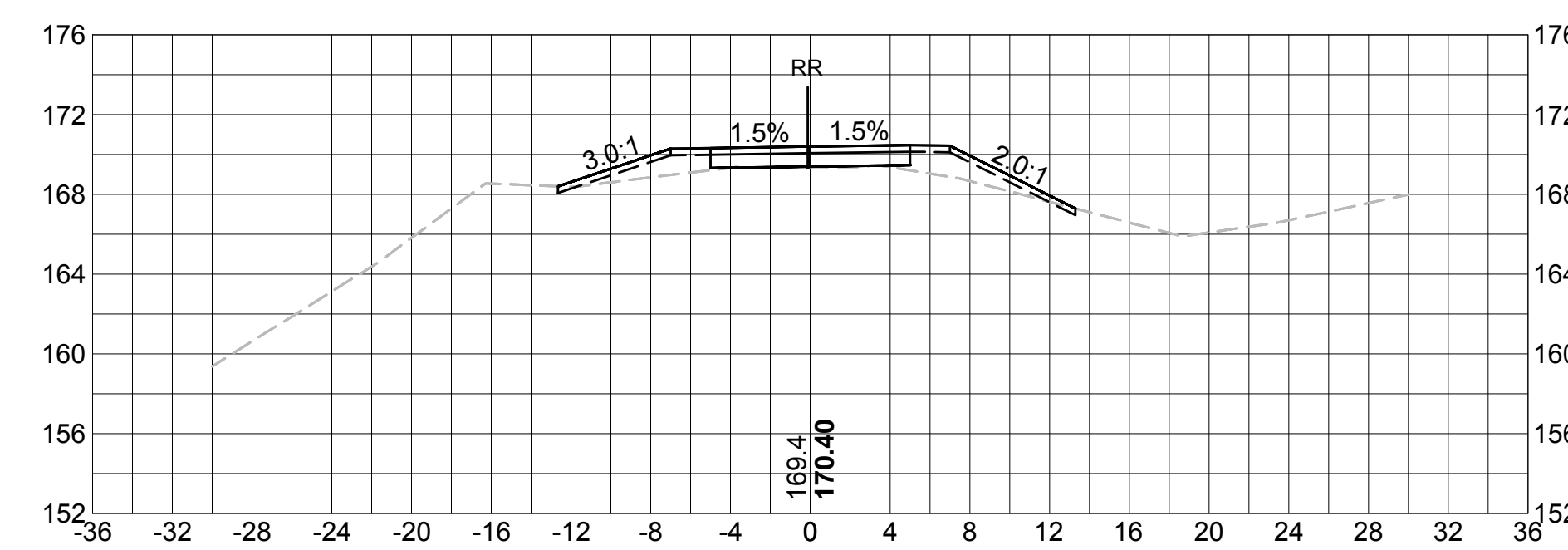
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	90	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

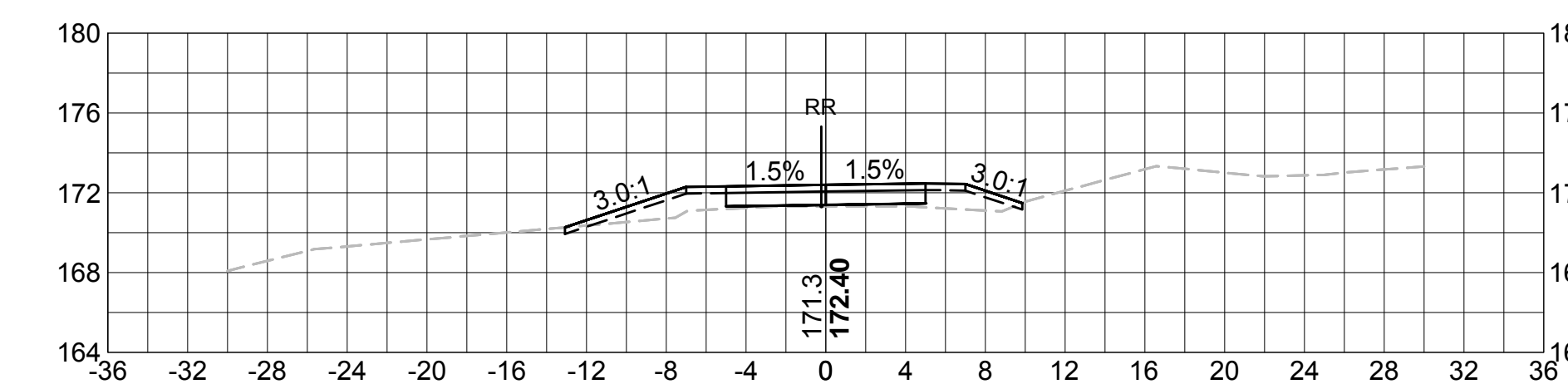
152+00



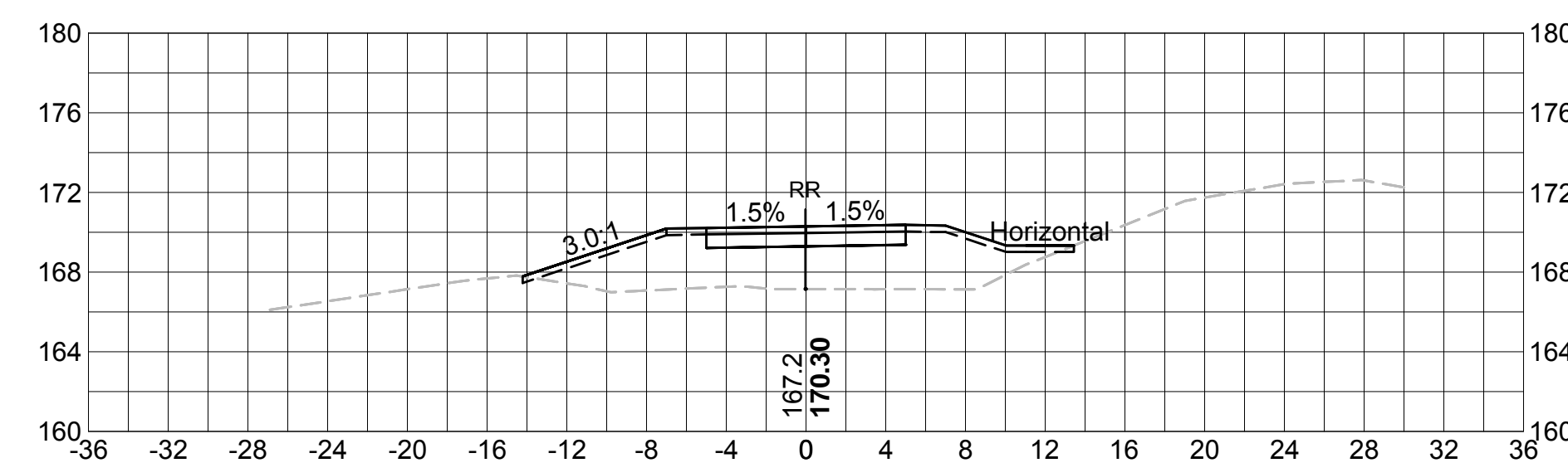
154+00



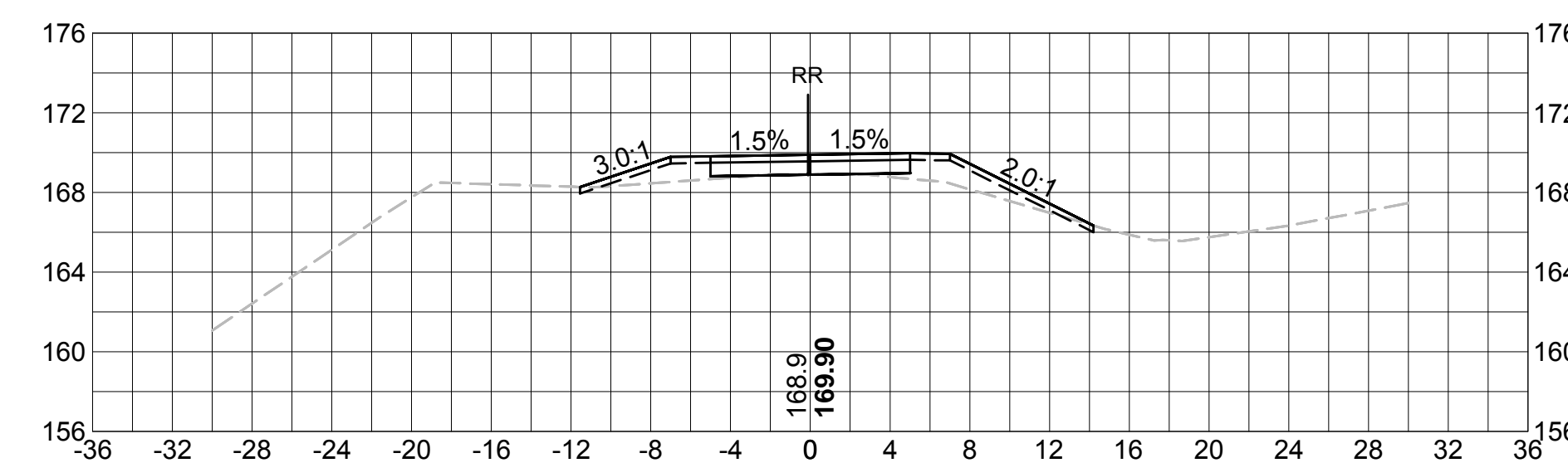
156+00



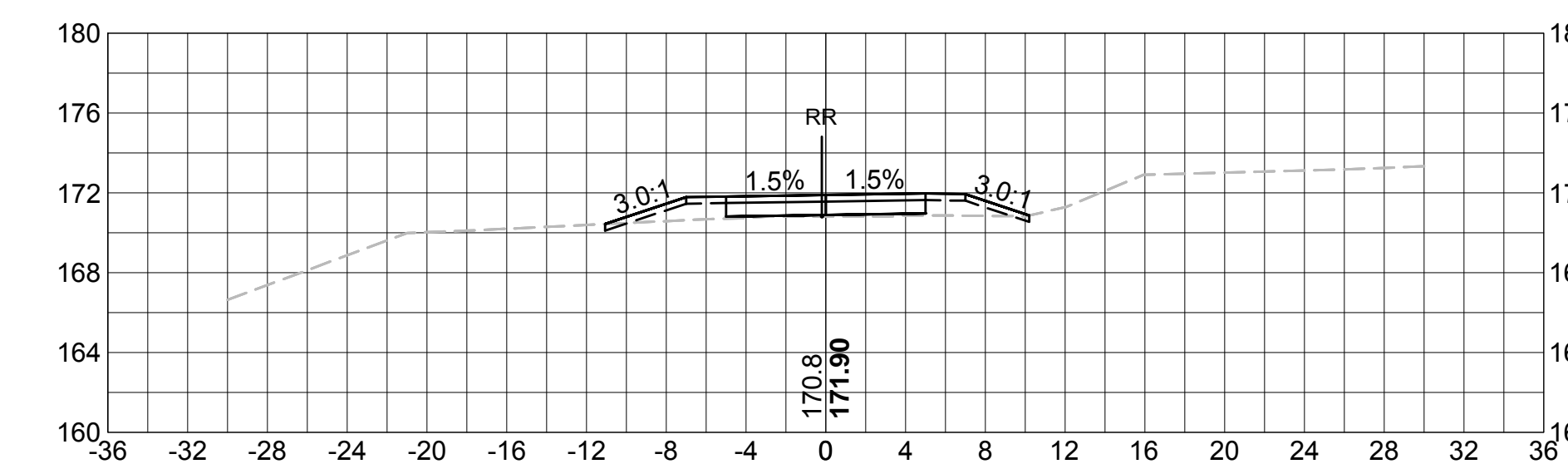
151+50



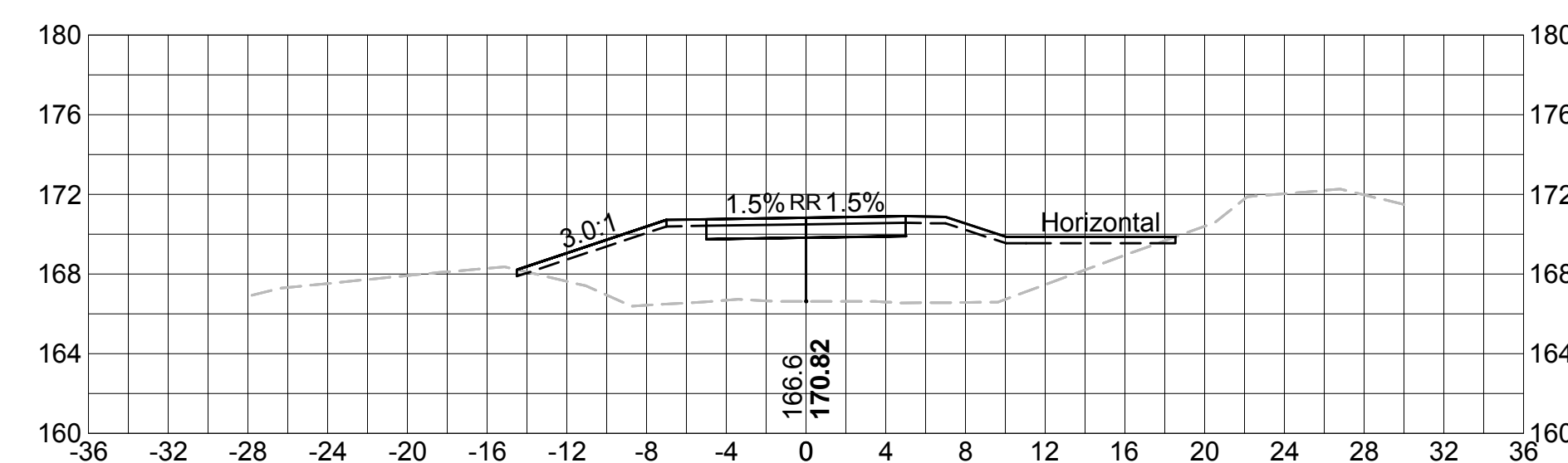
153+50



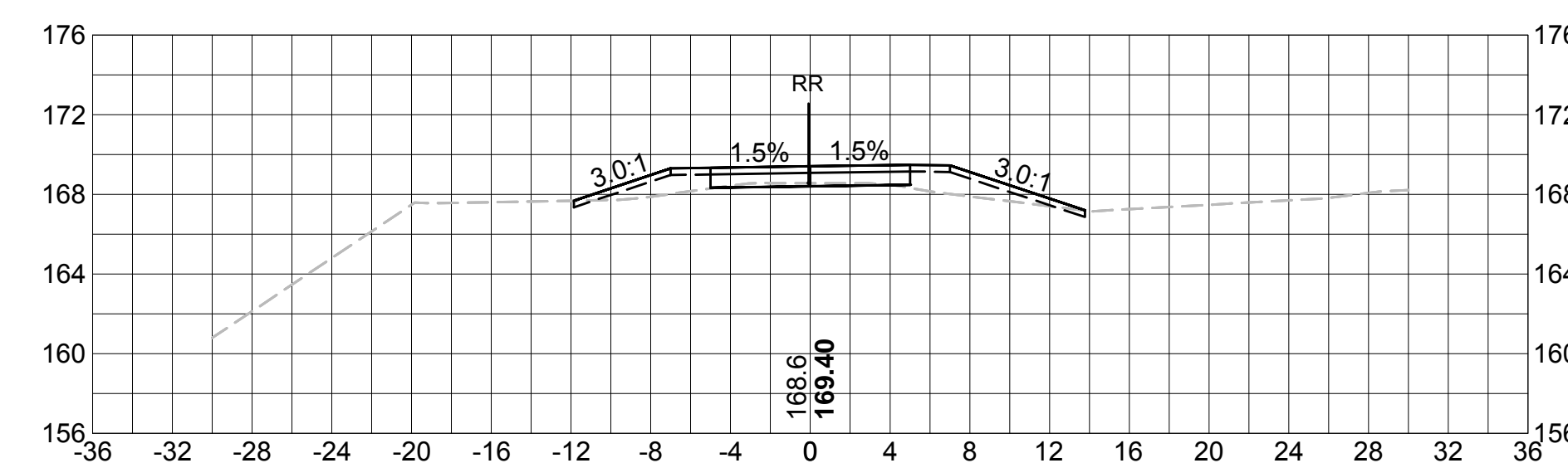
155+50



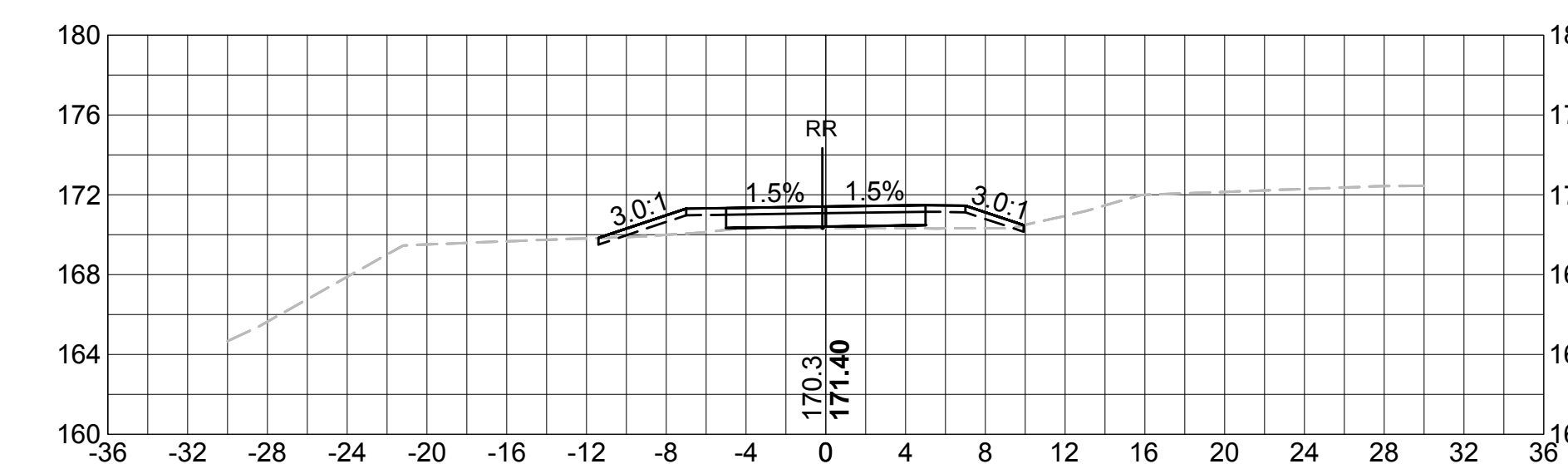
151+00



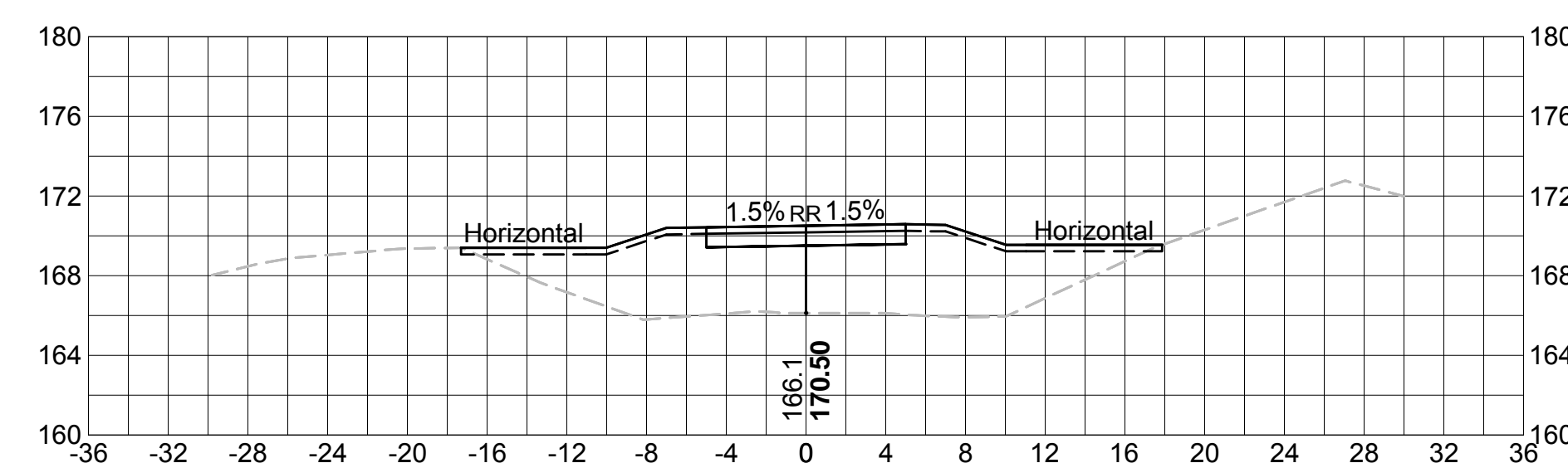
153+00



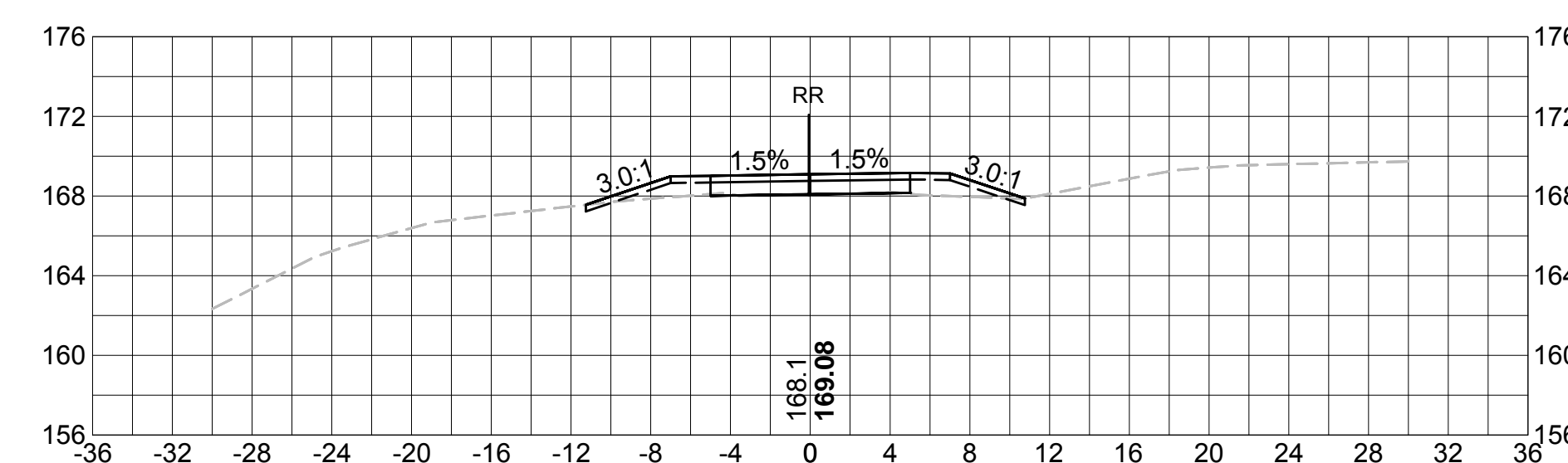
155+00



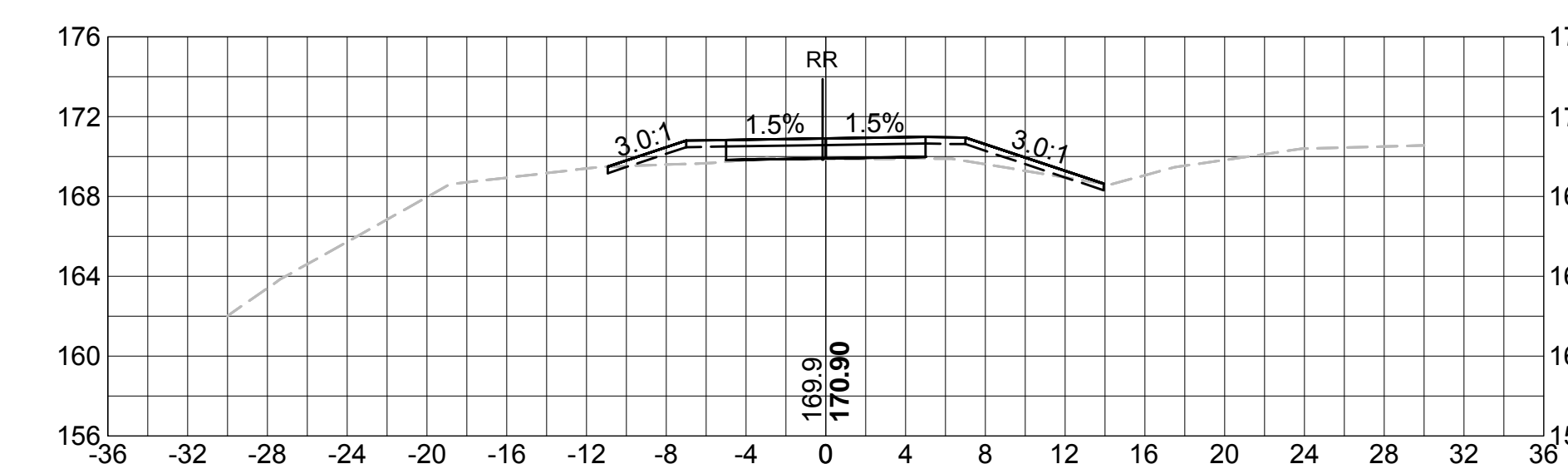
150+50



152+50



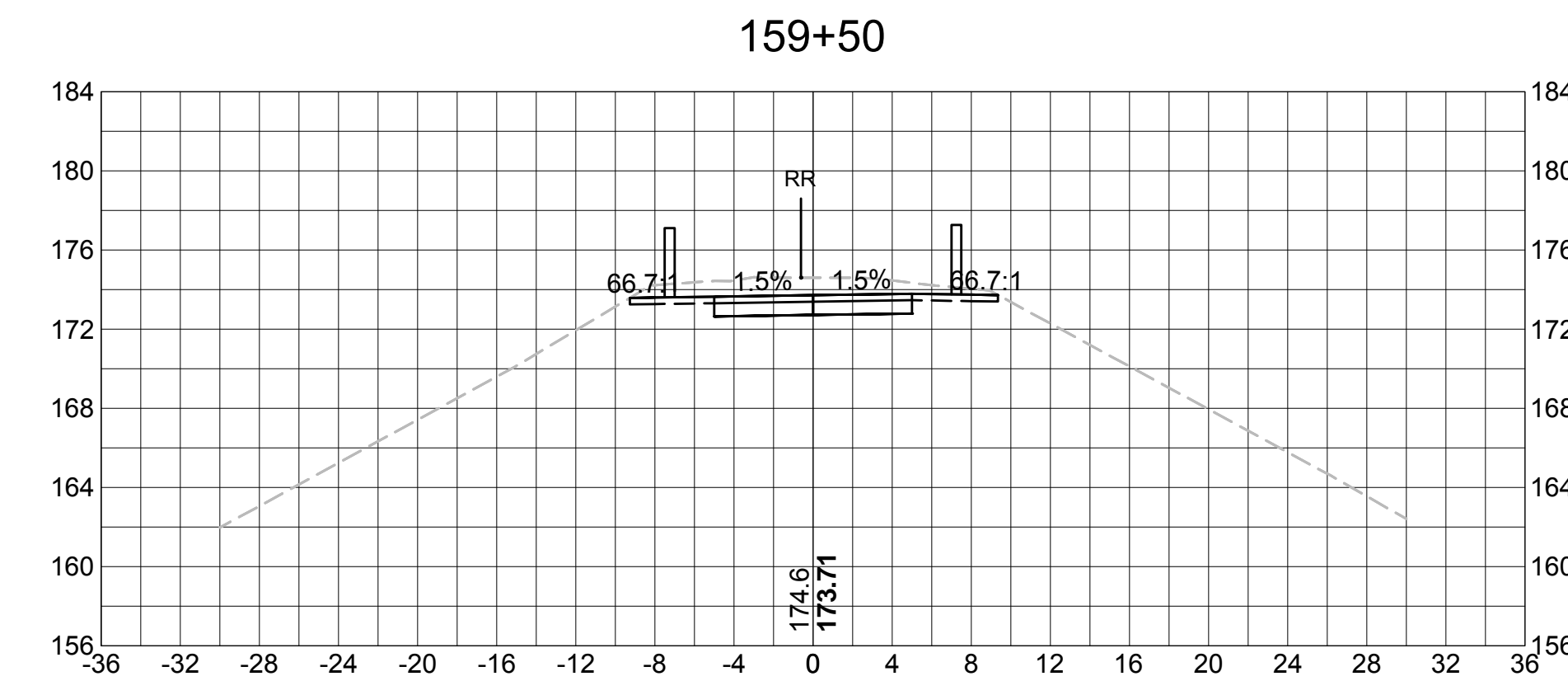
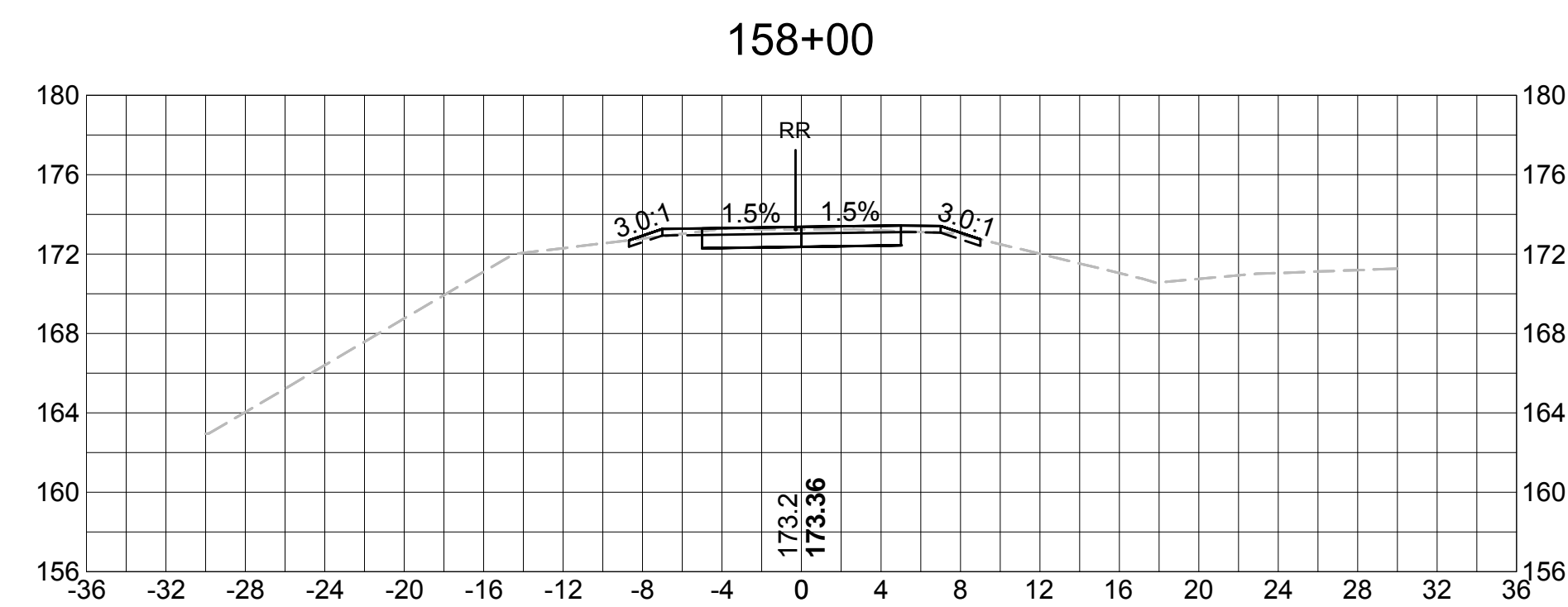
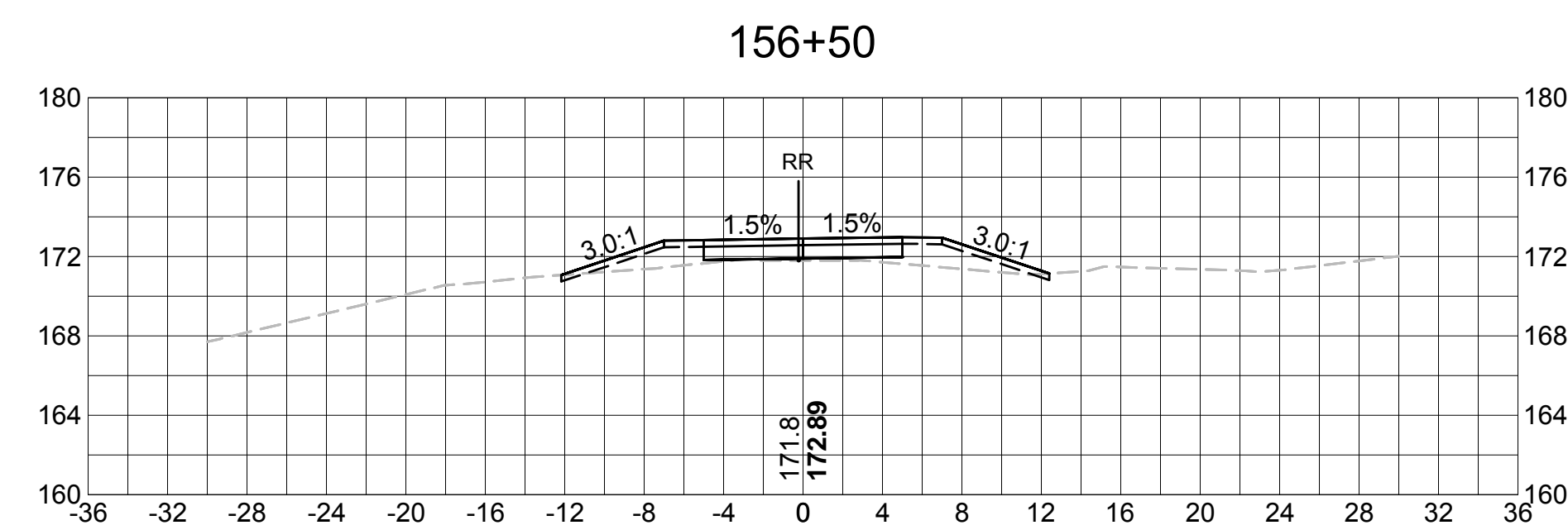
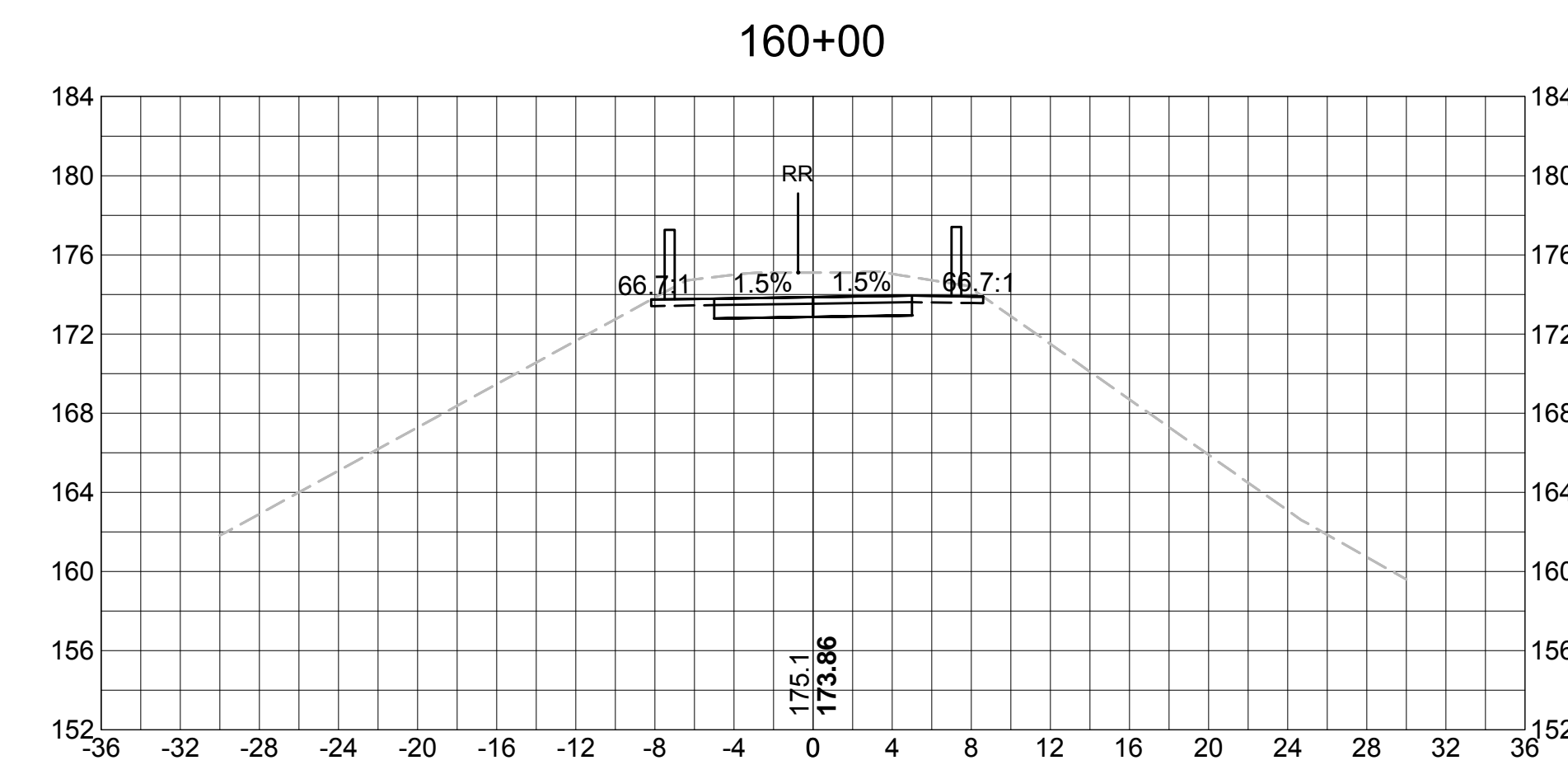
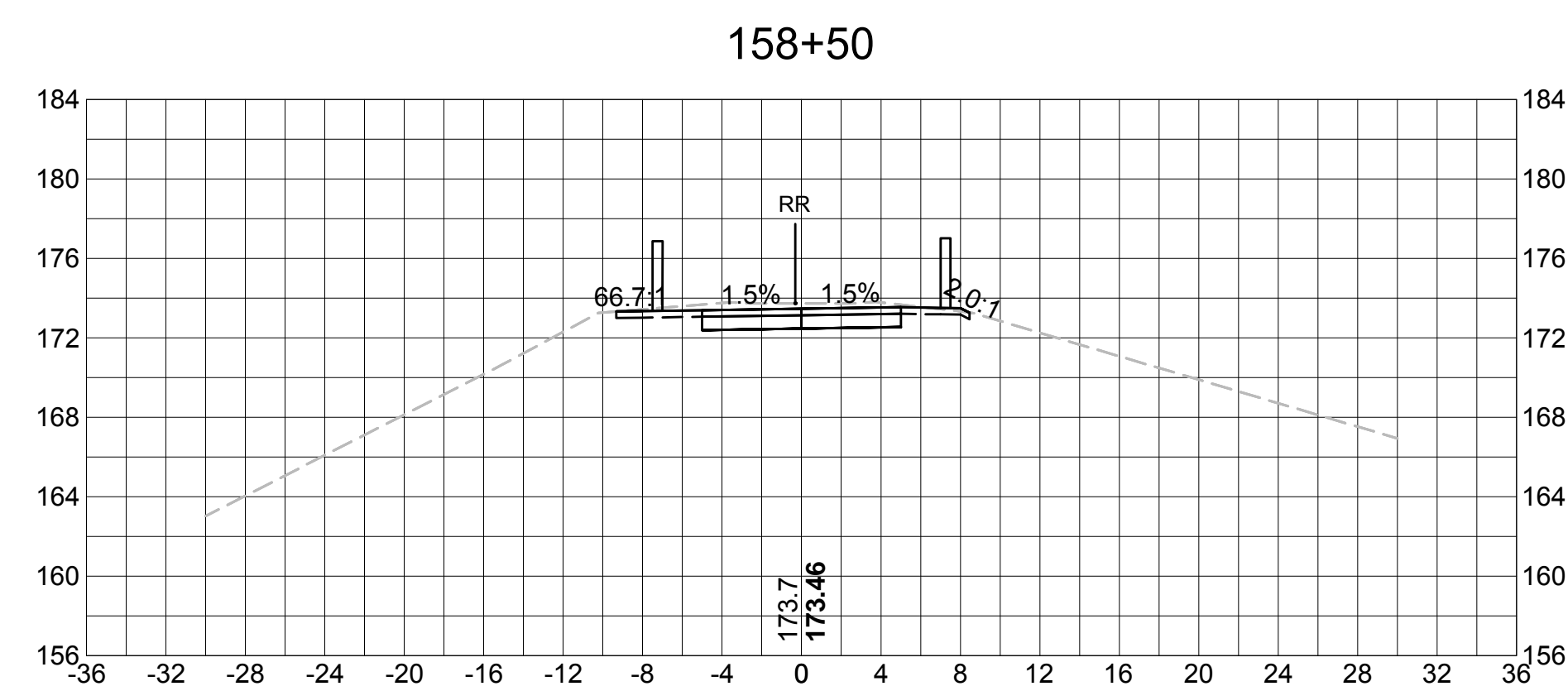
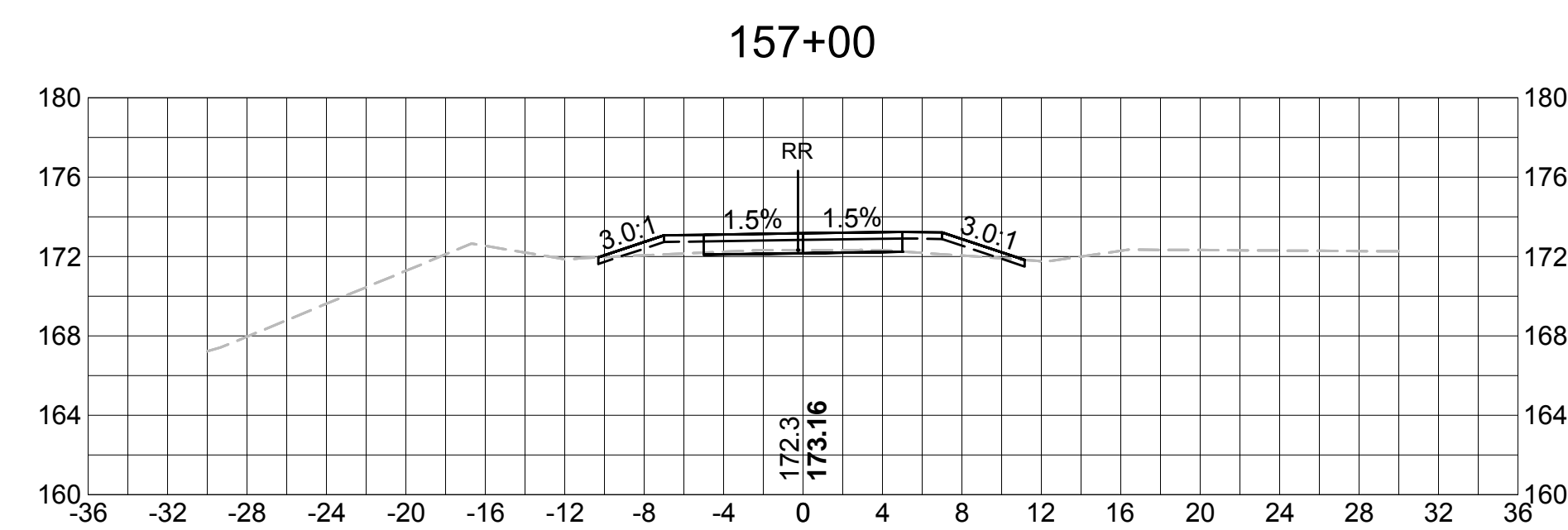
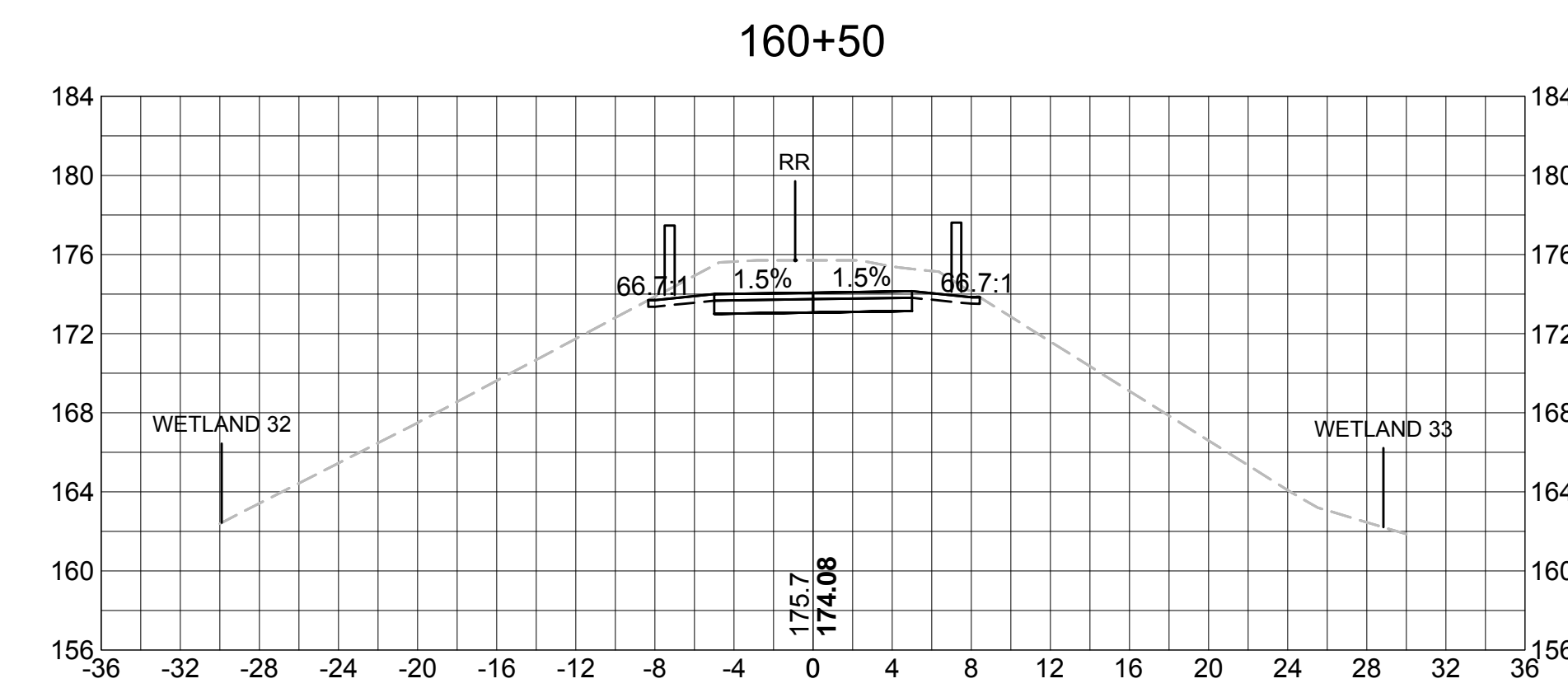
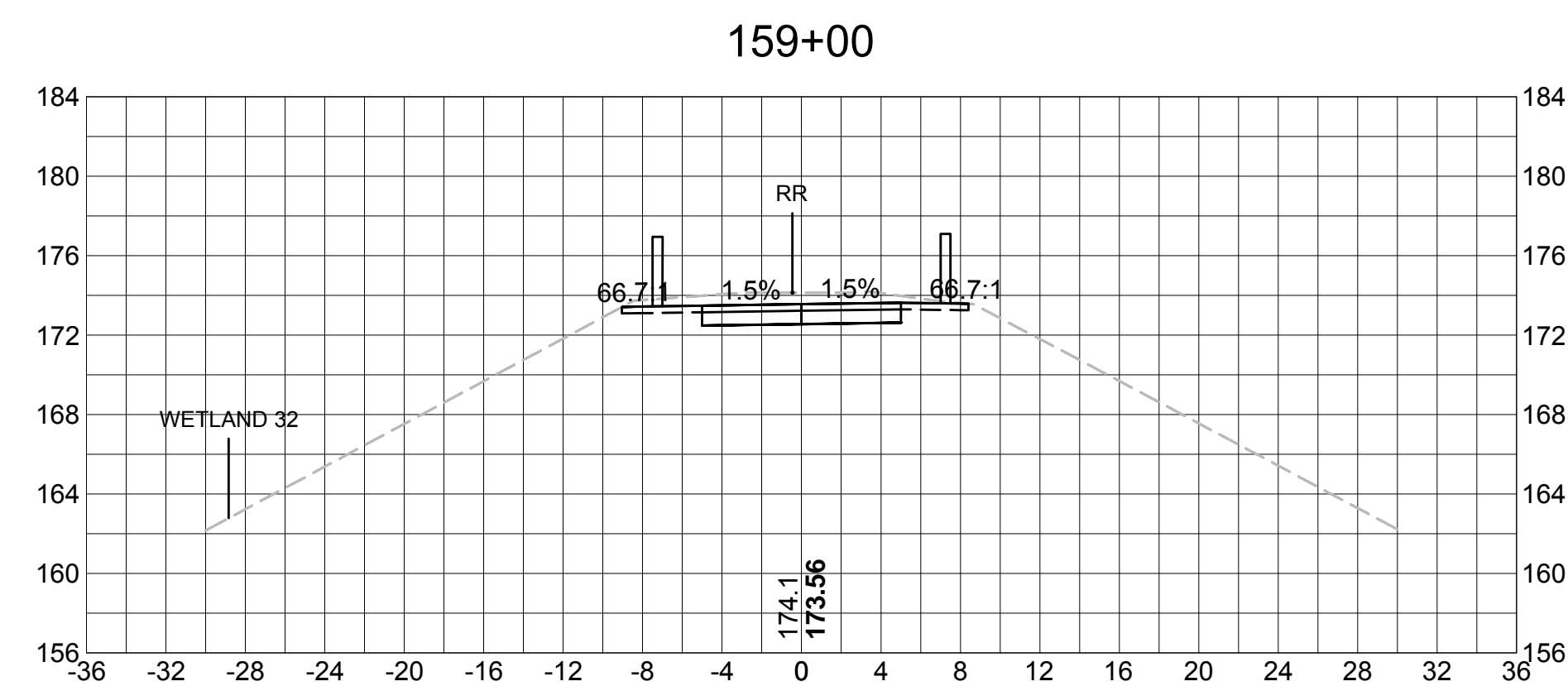
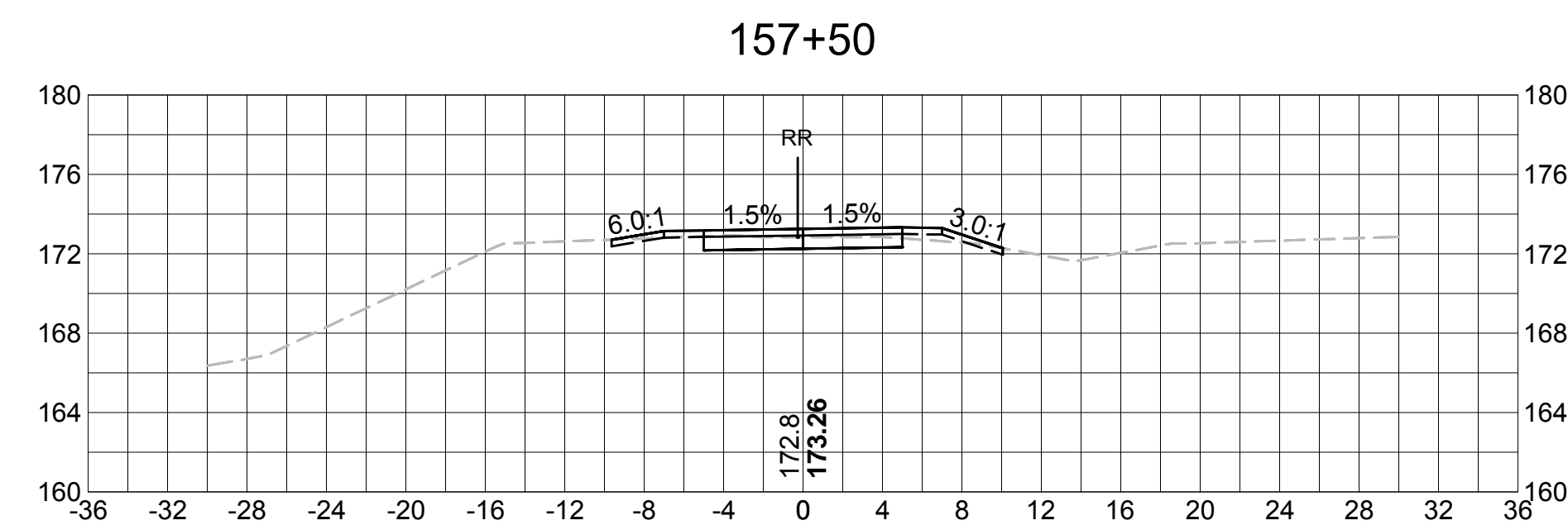
154+50



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	91	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

608164_HDXSEC-2.DWG 5-Sep-2017



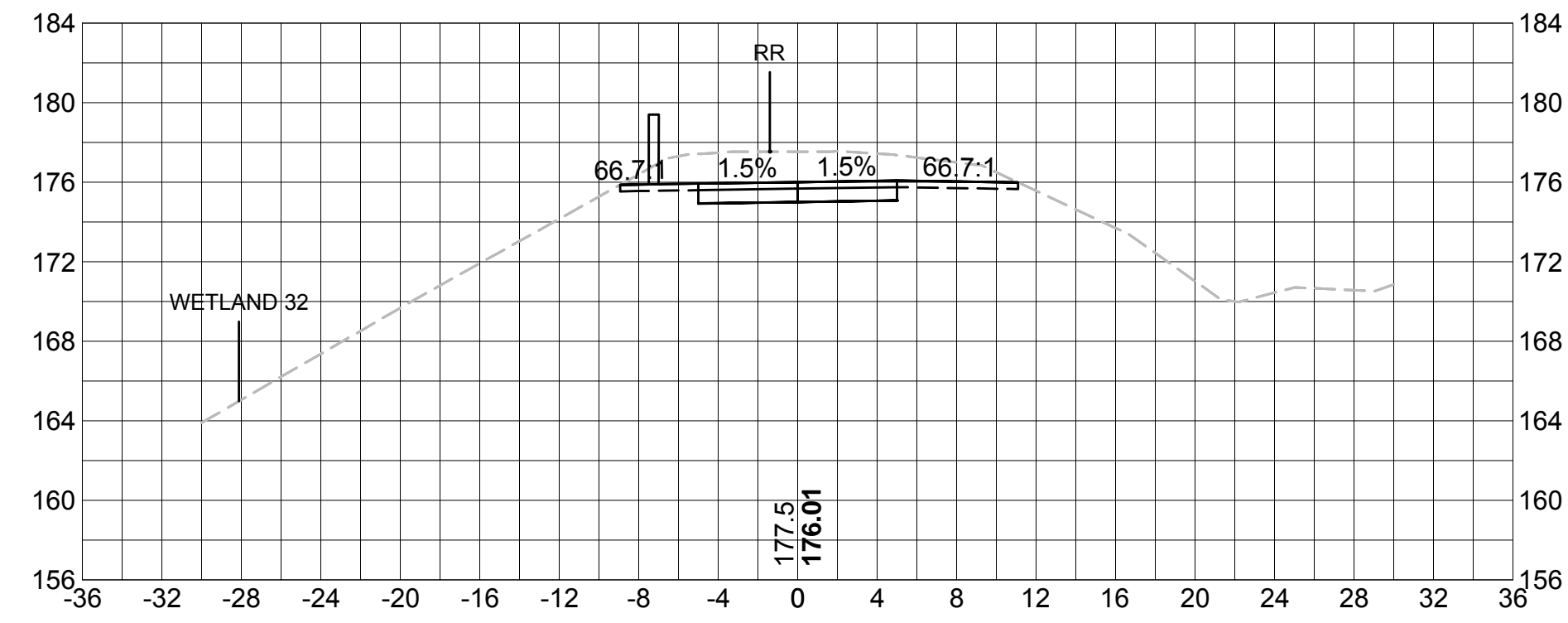
SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	92	123

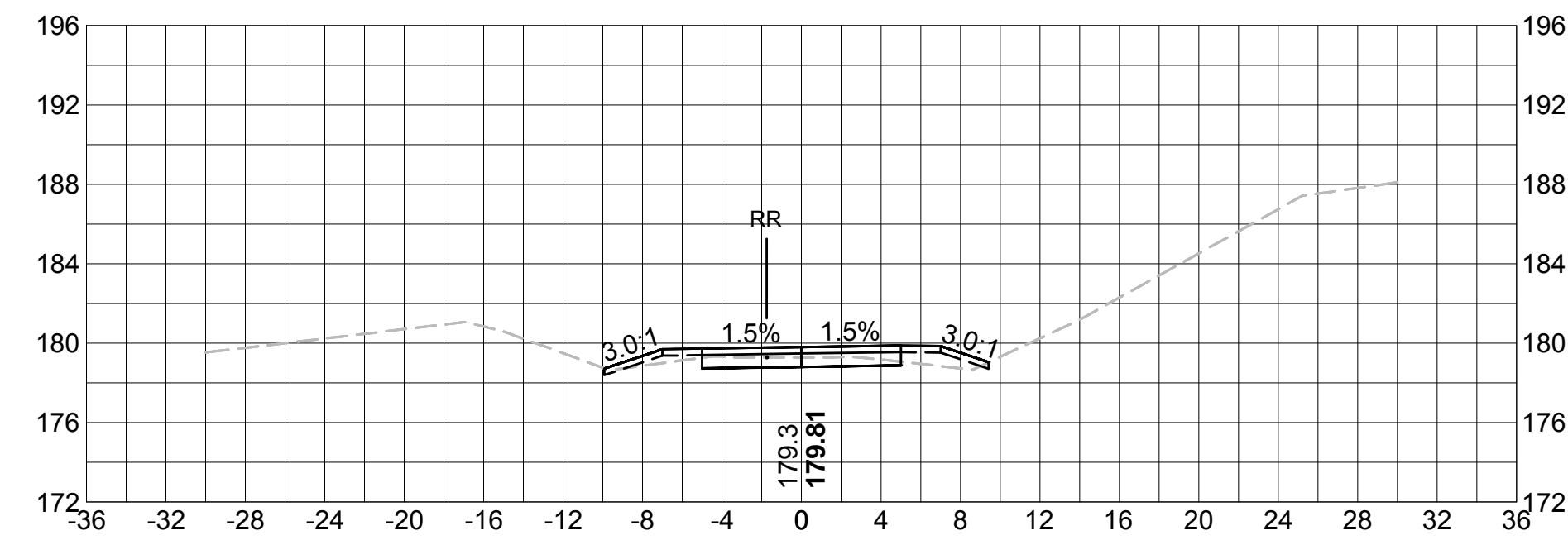
PROJECT FILE NO. 608164

CROSS SECTIONS

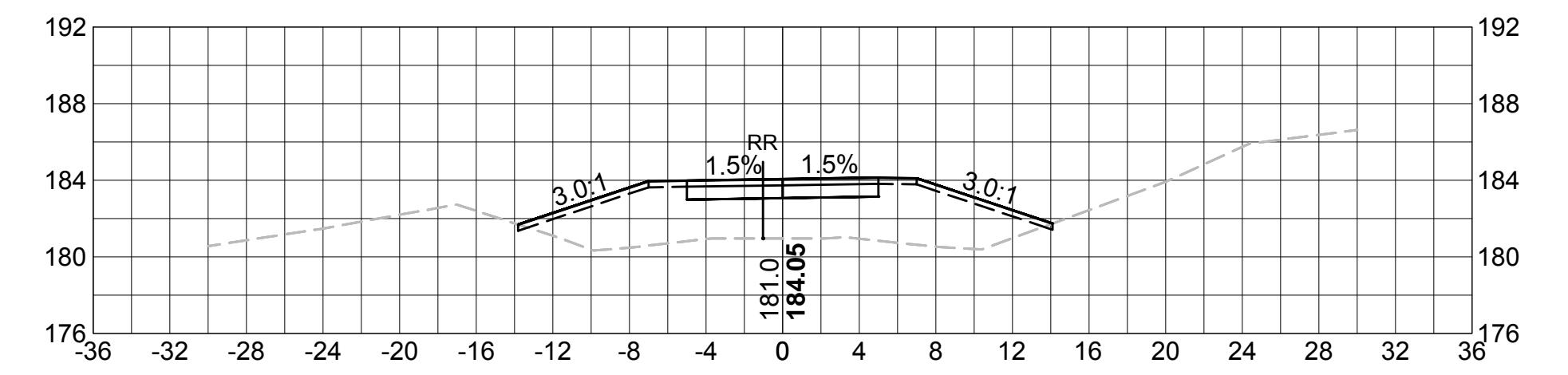
162+00



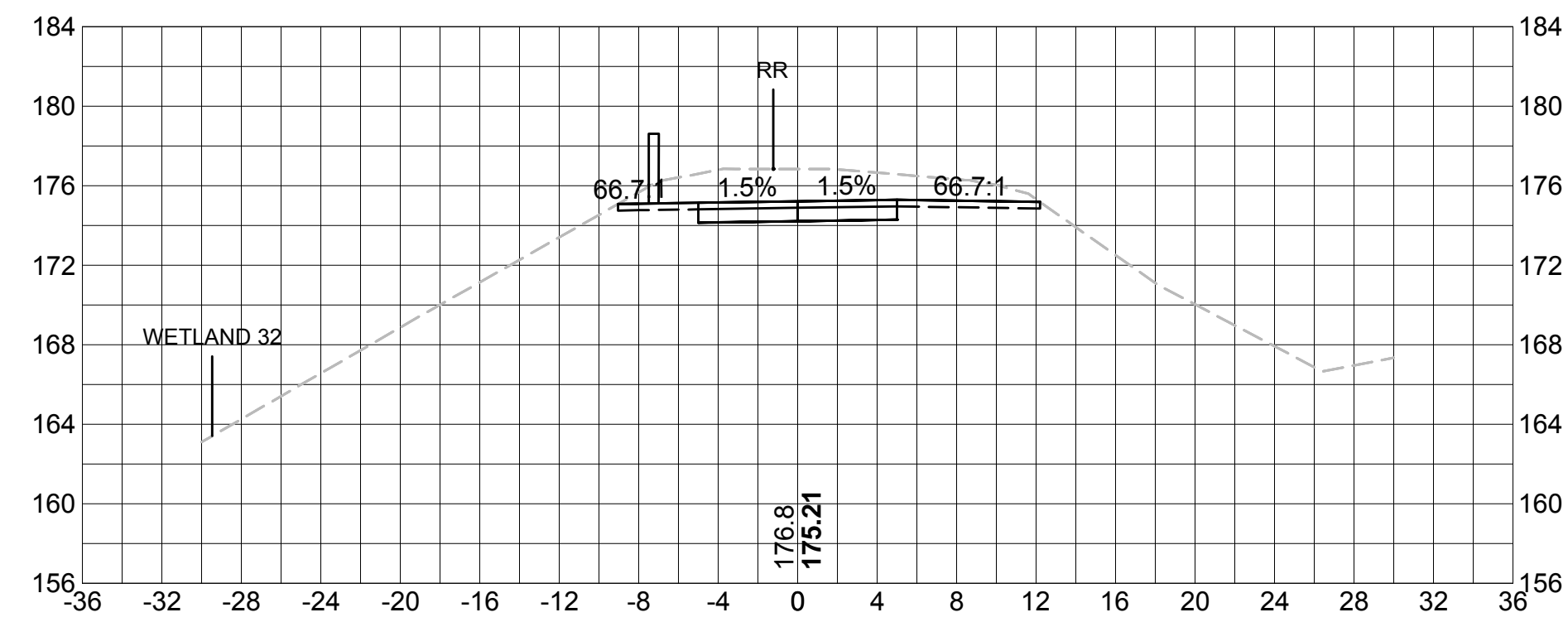
163+50



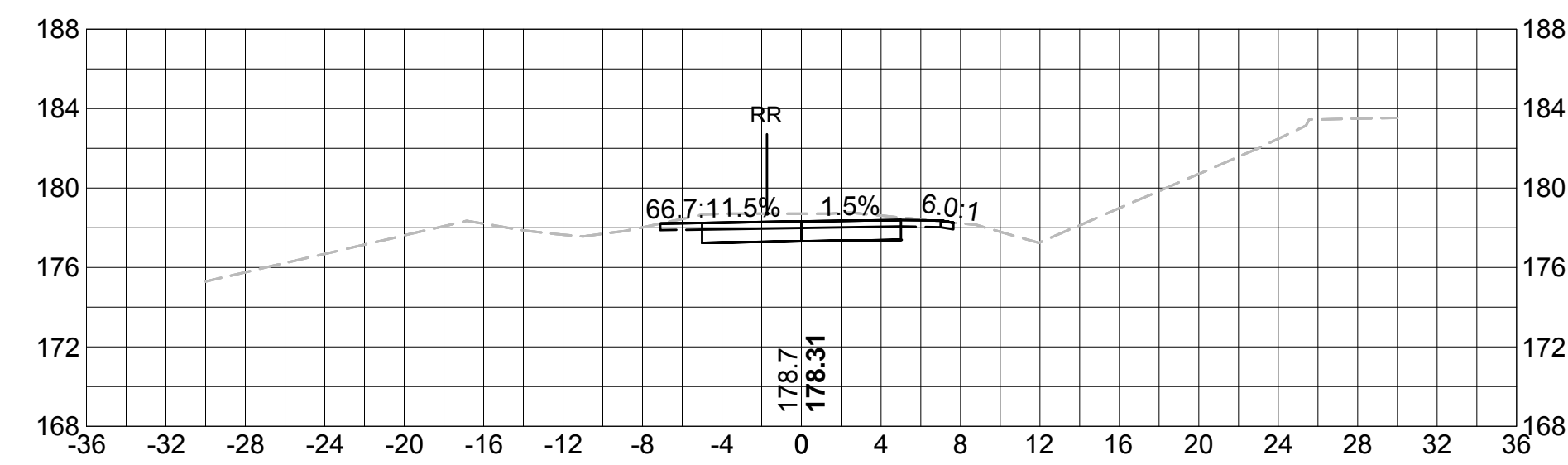
165+00



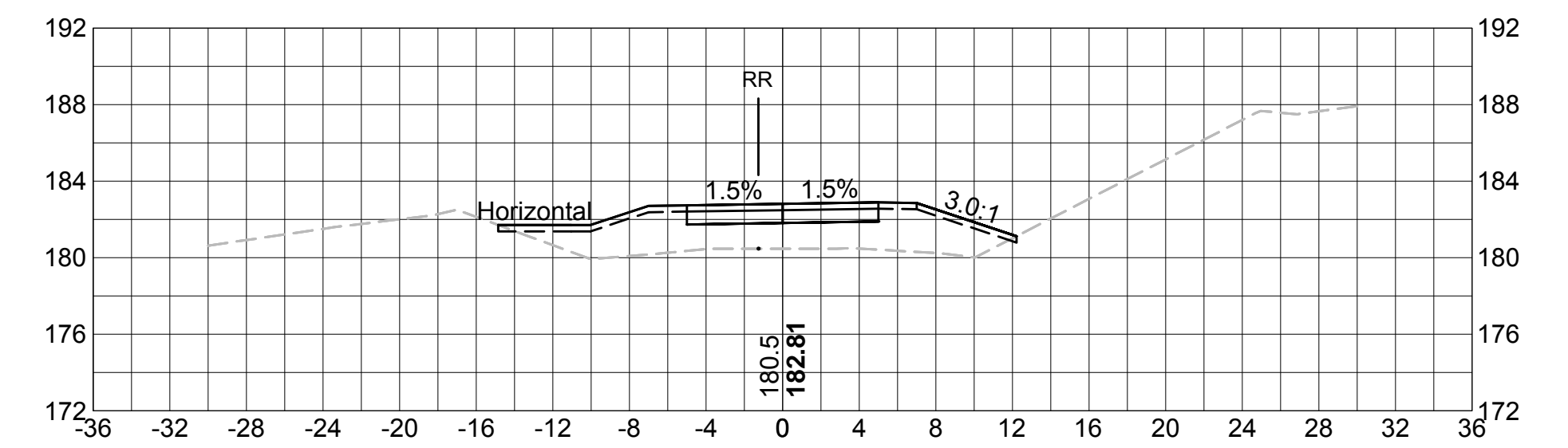
161+50



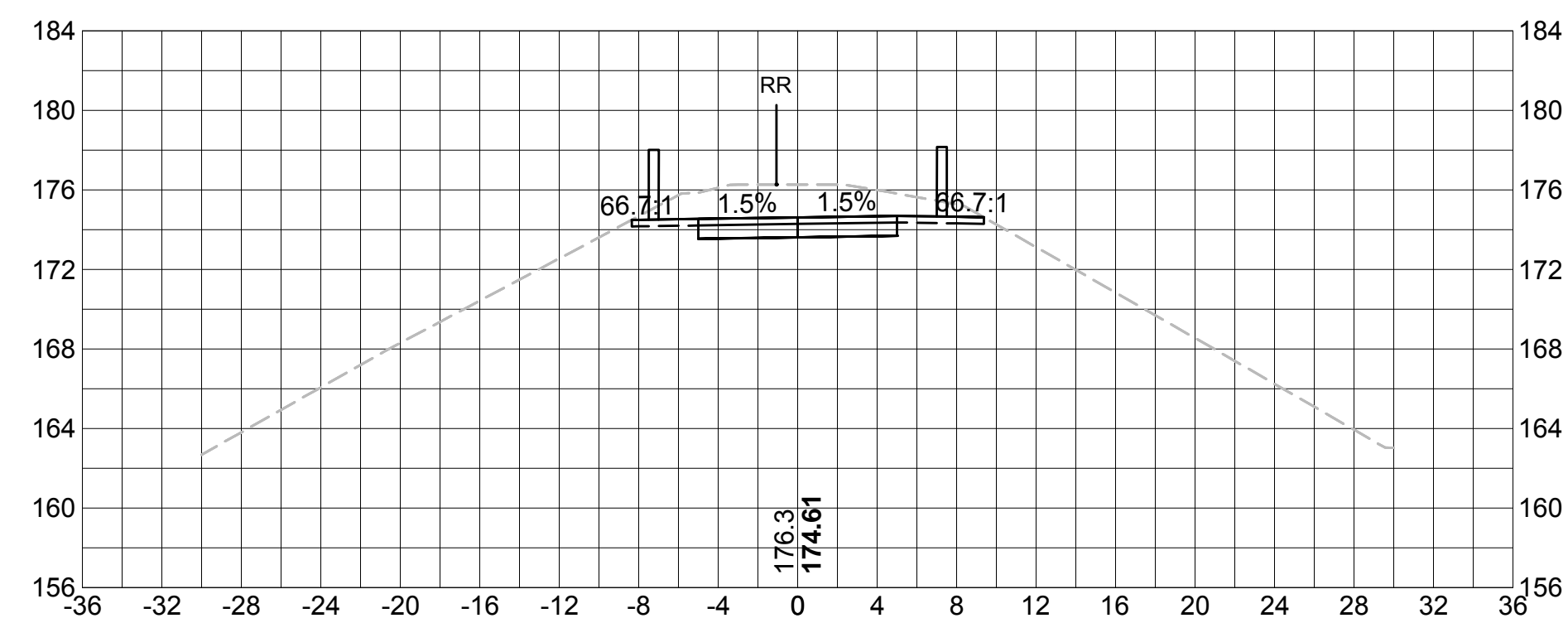
163+00



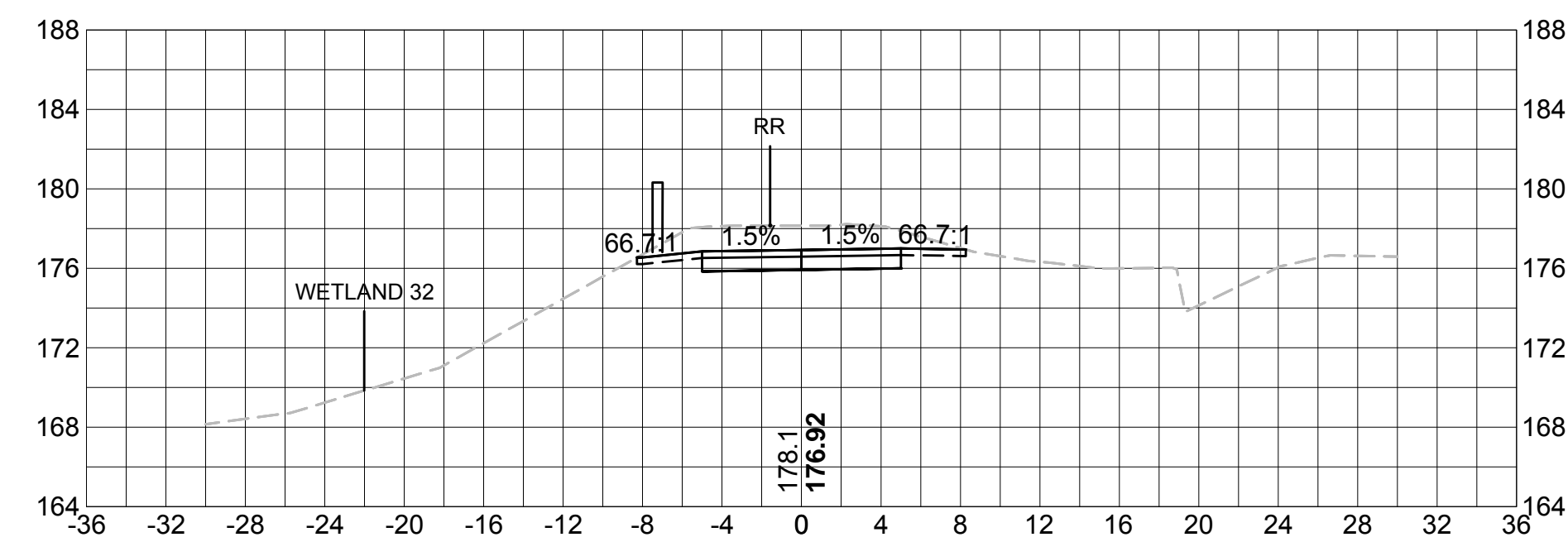
164+50



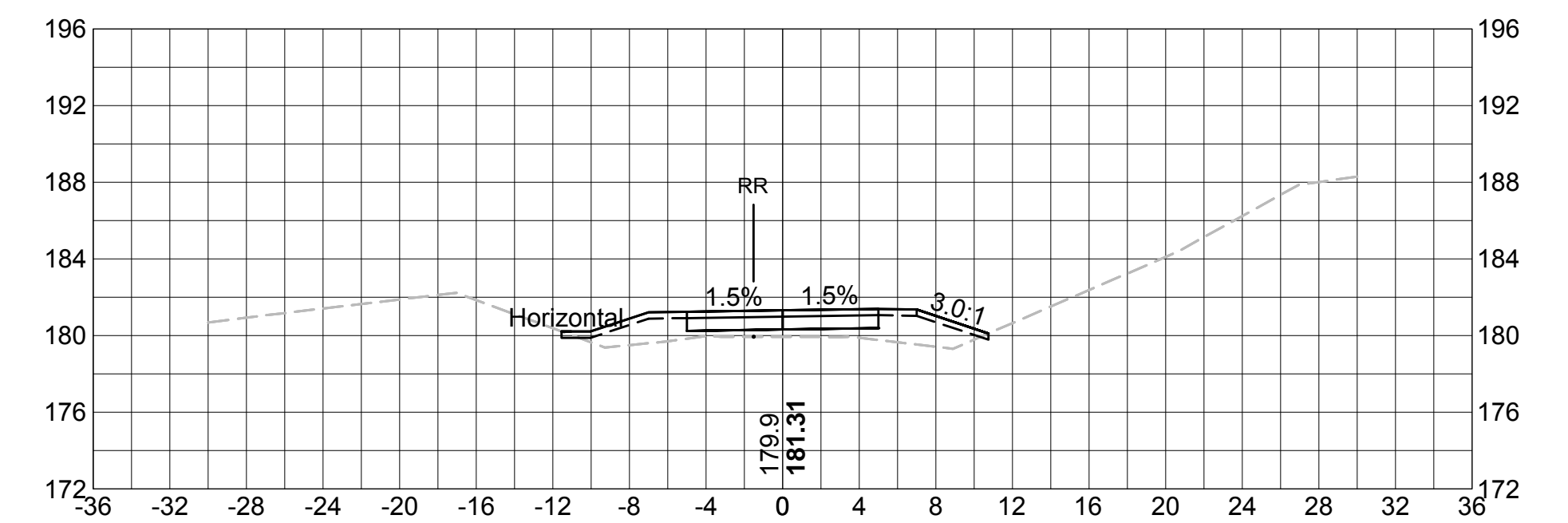
161+00



162+50



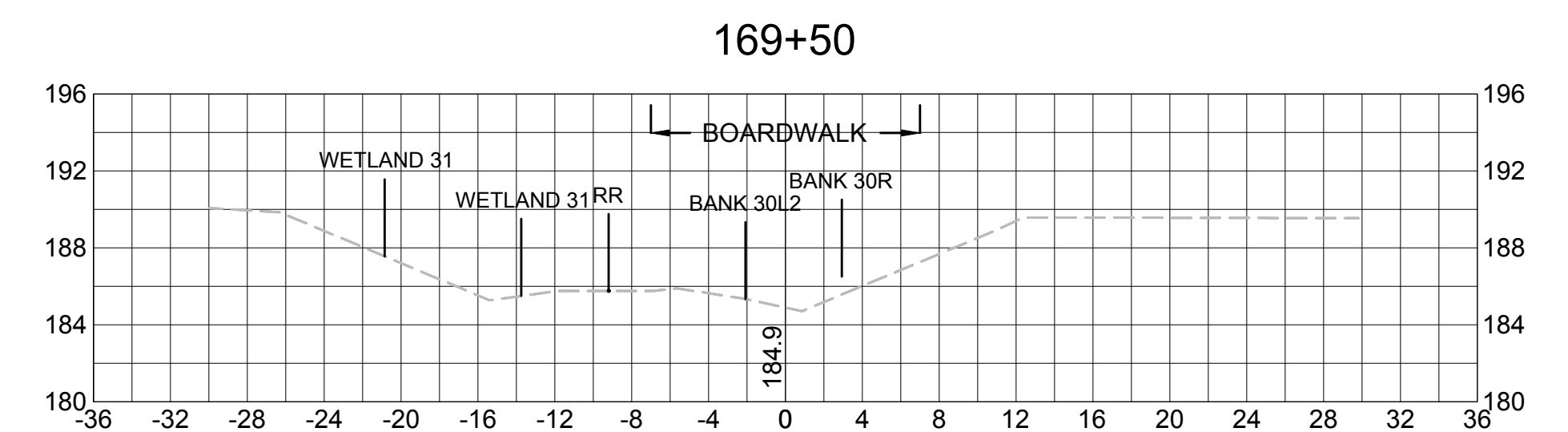
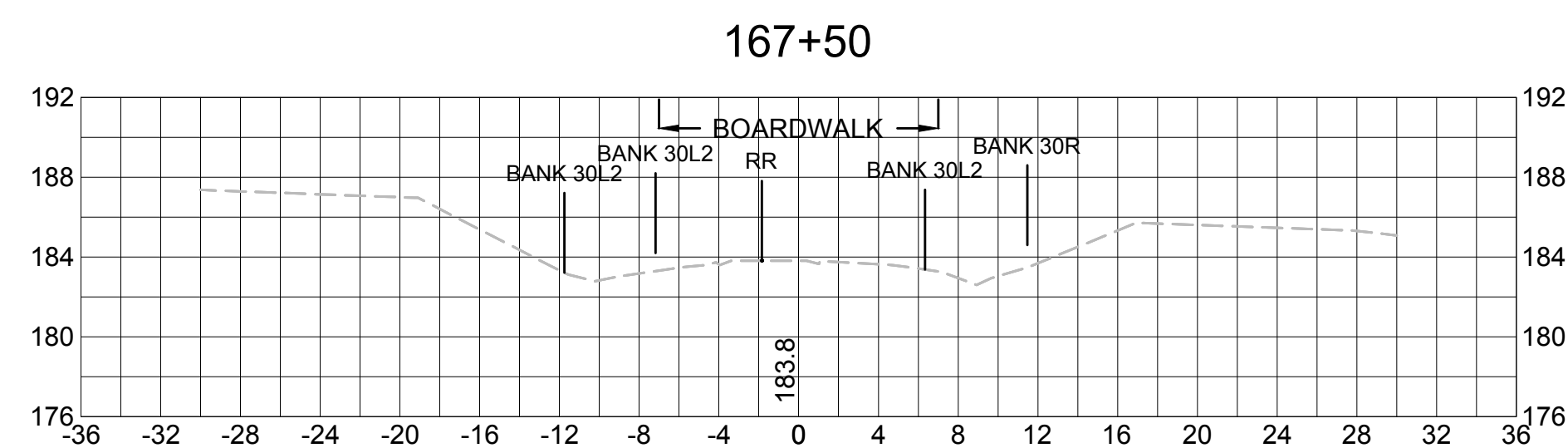
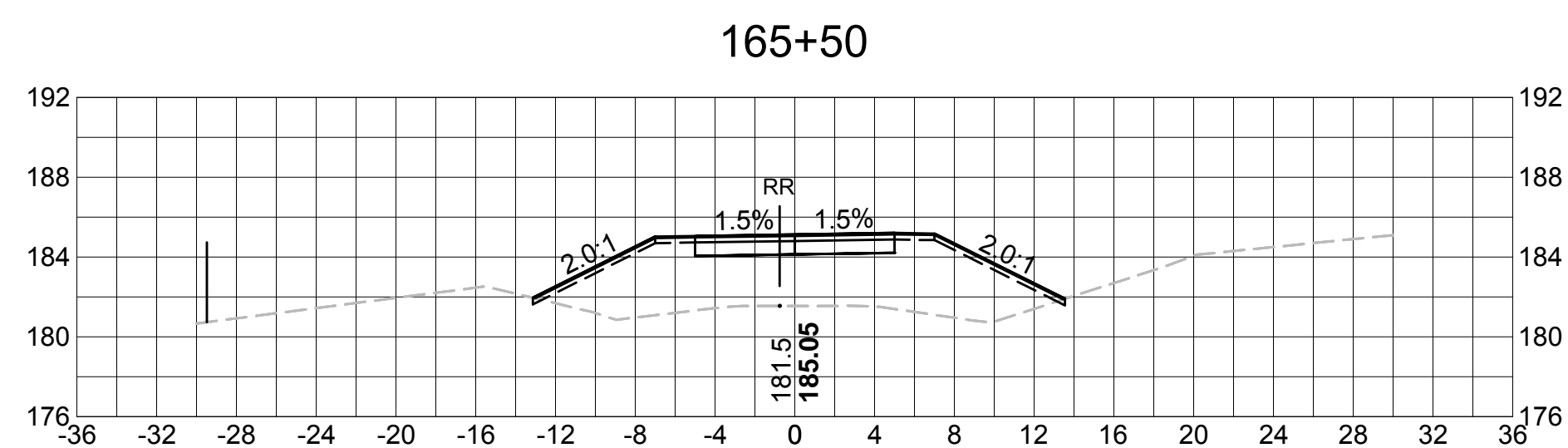
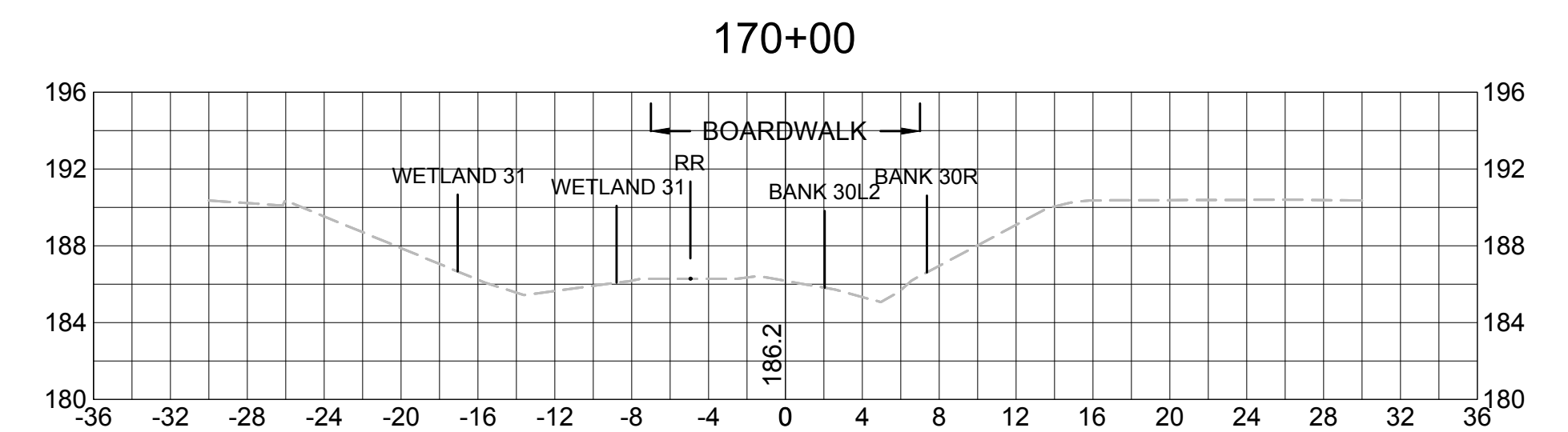
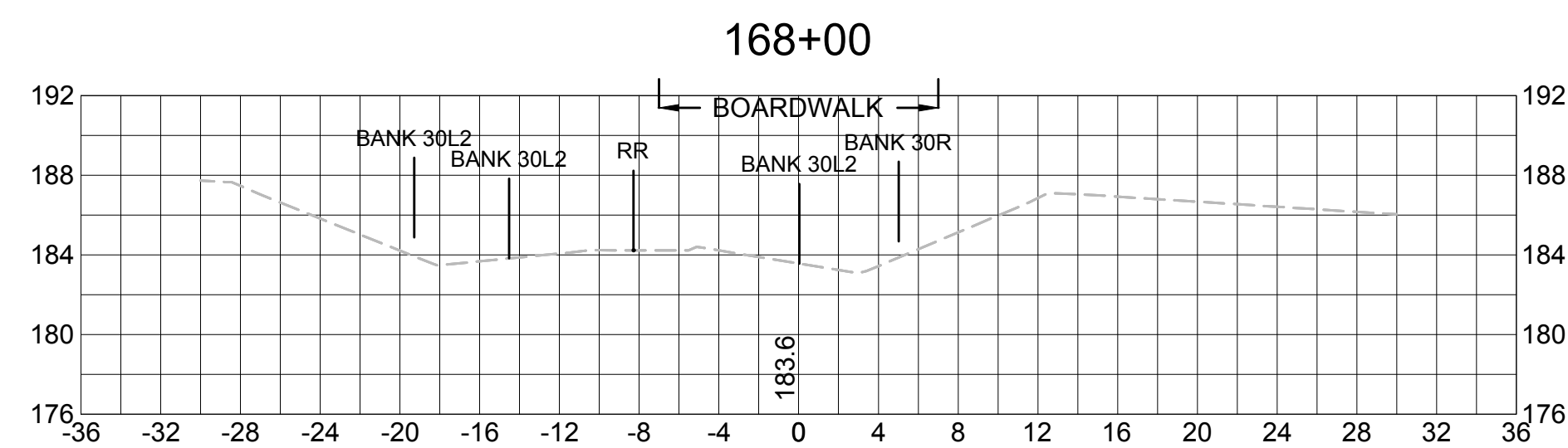
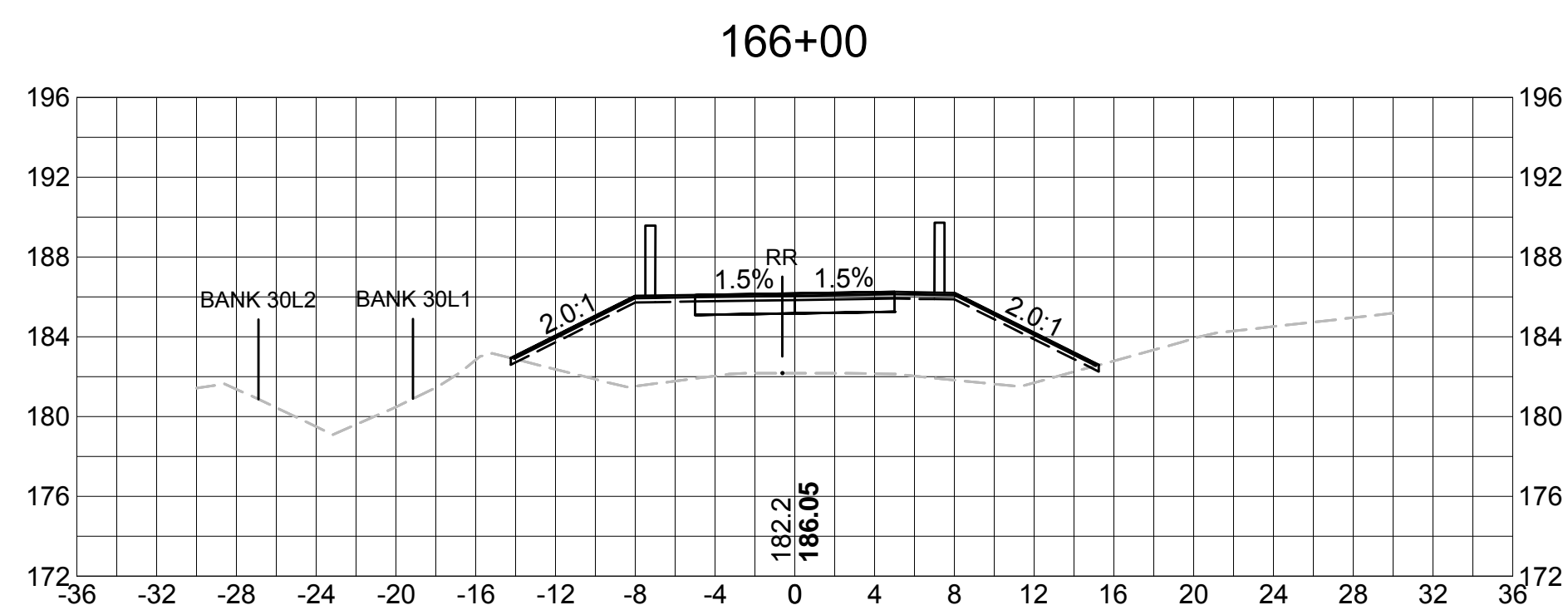
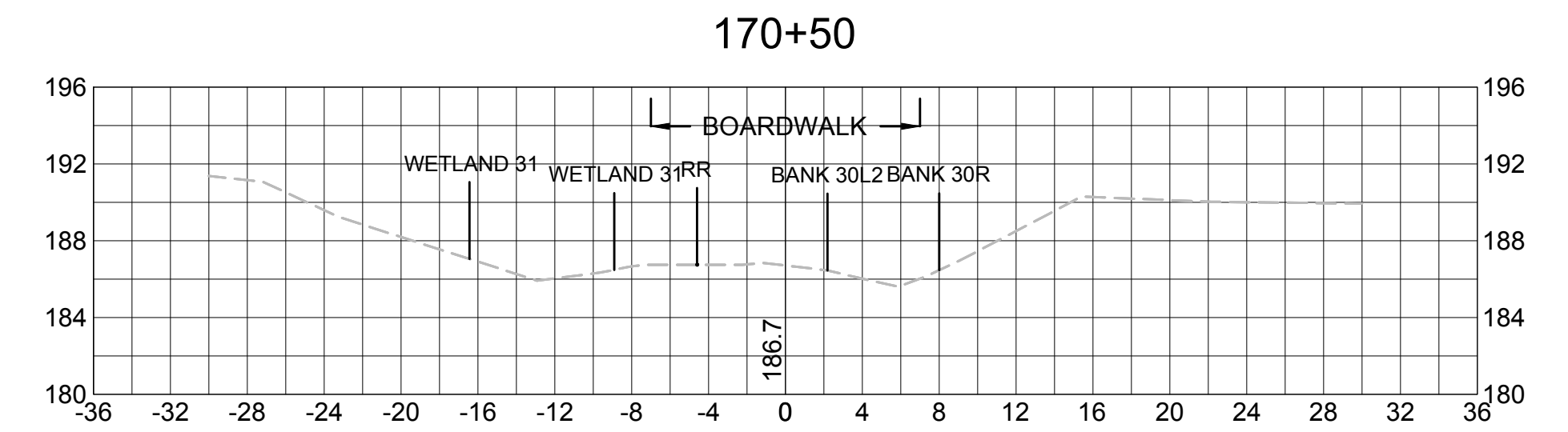
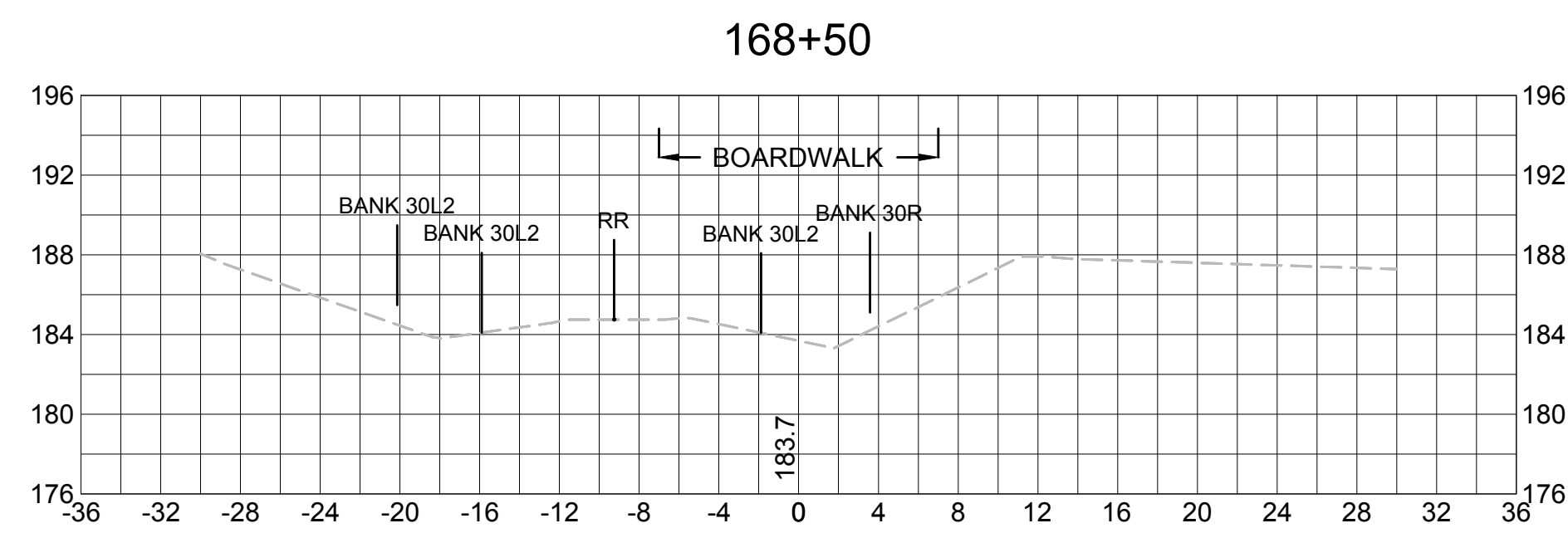
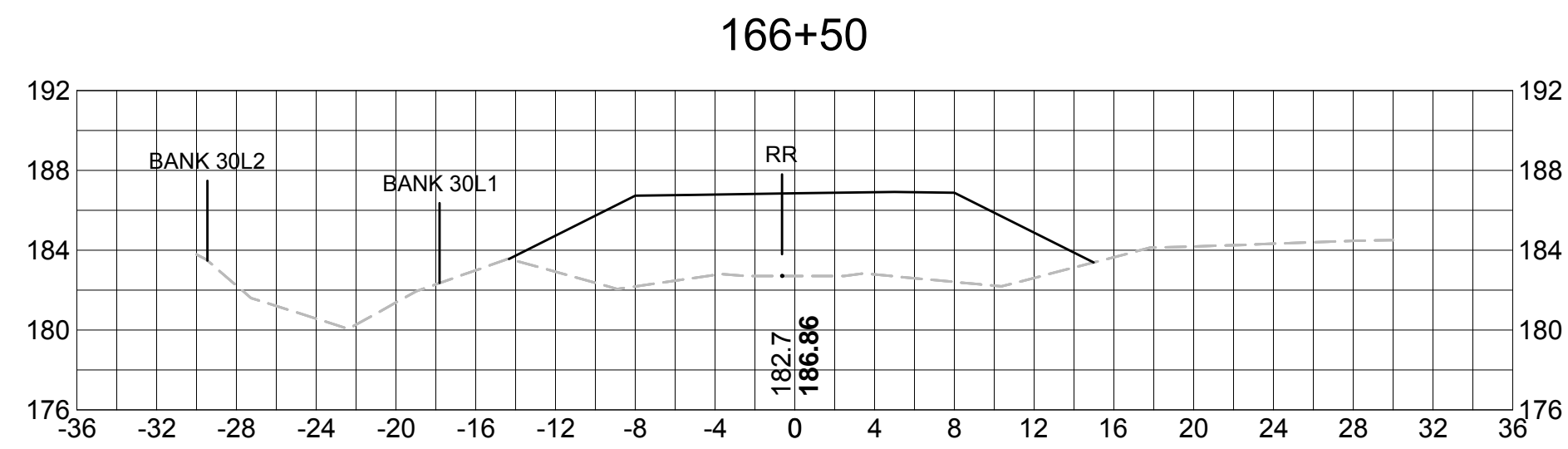
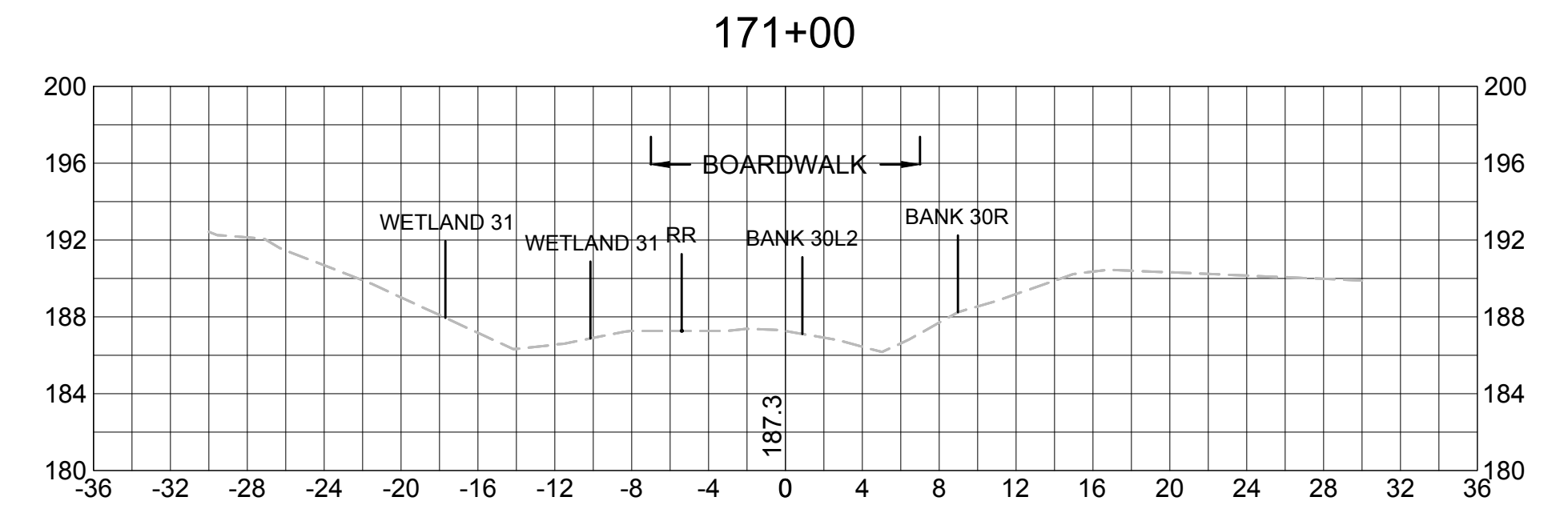
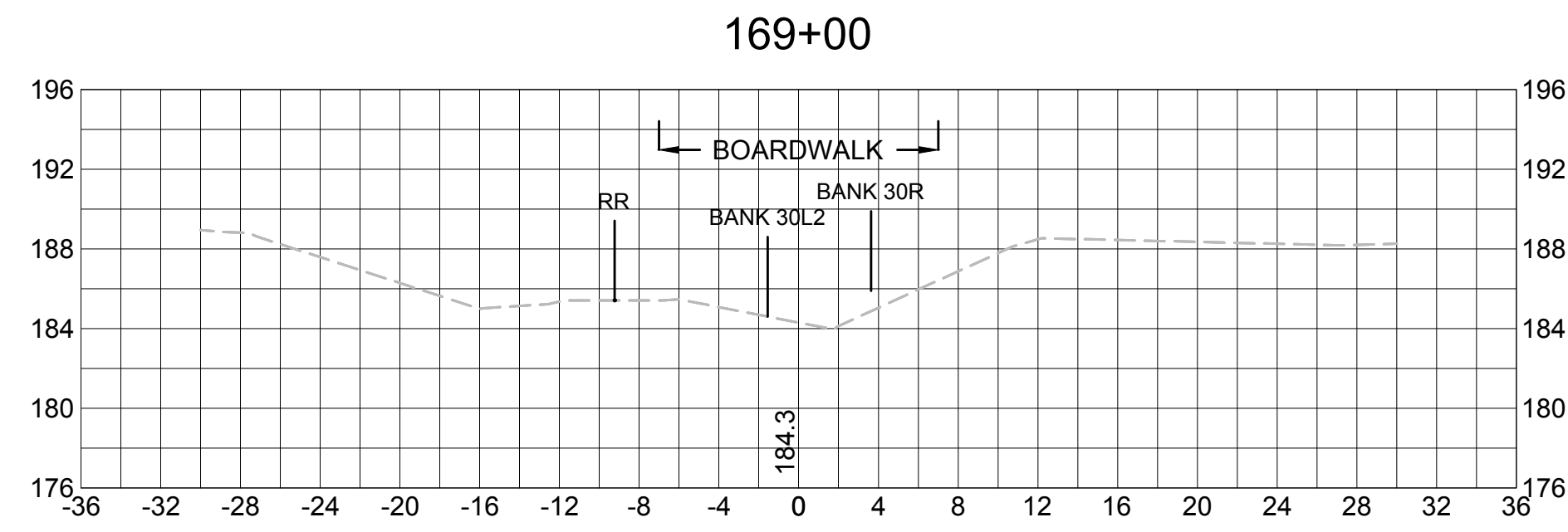
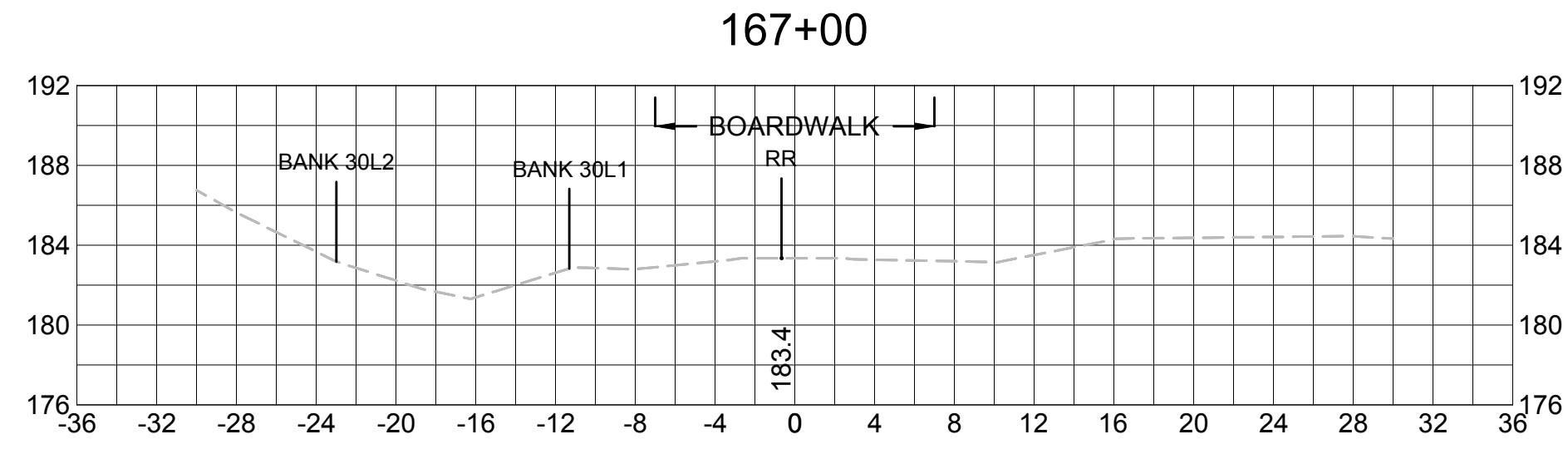
164+00



SUDBURY
BRUCE FREEMAN RAIL TRAIL

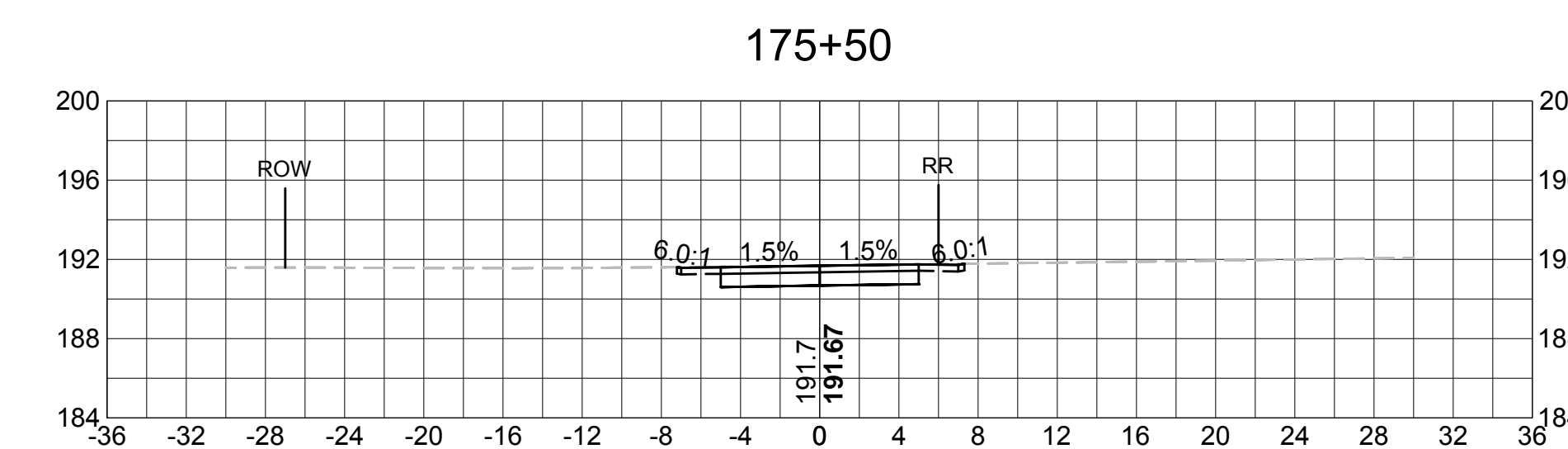
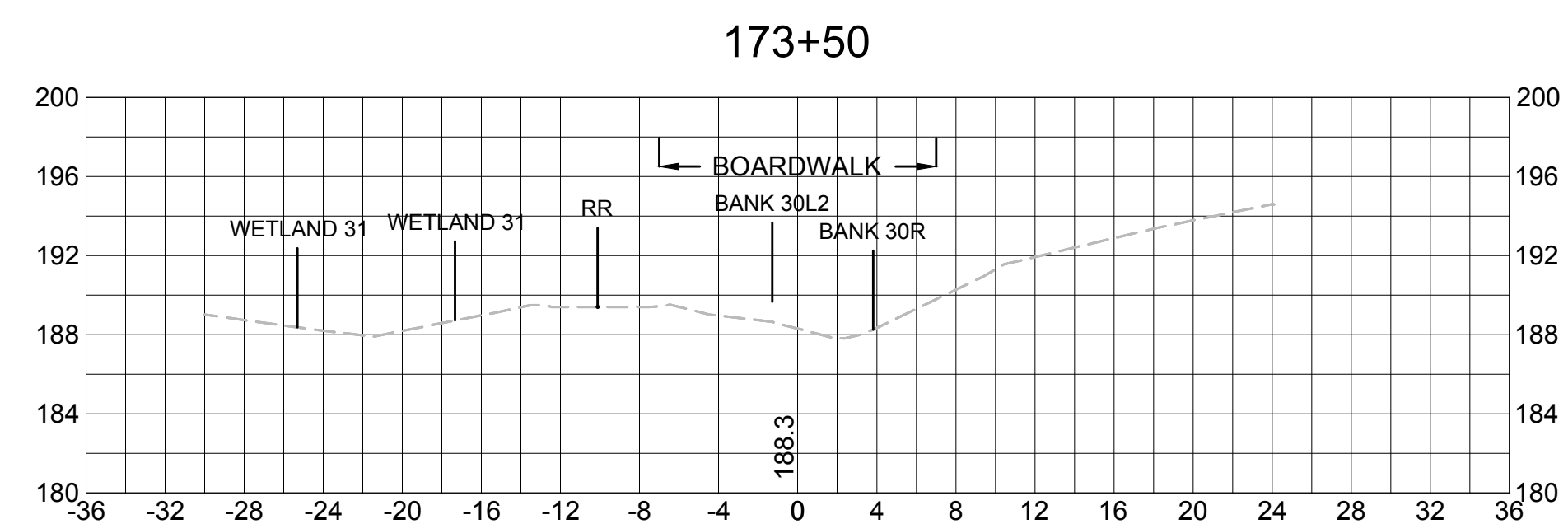
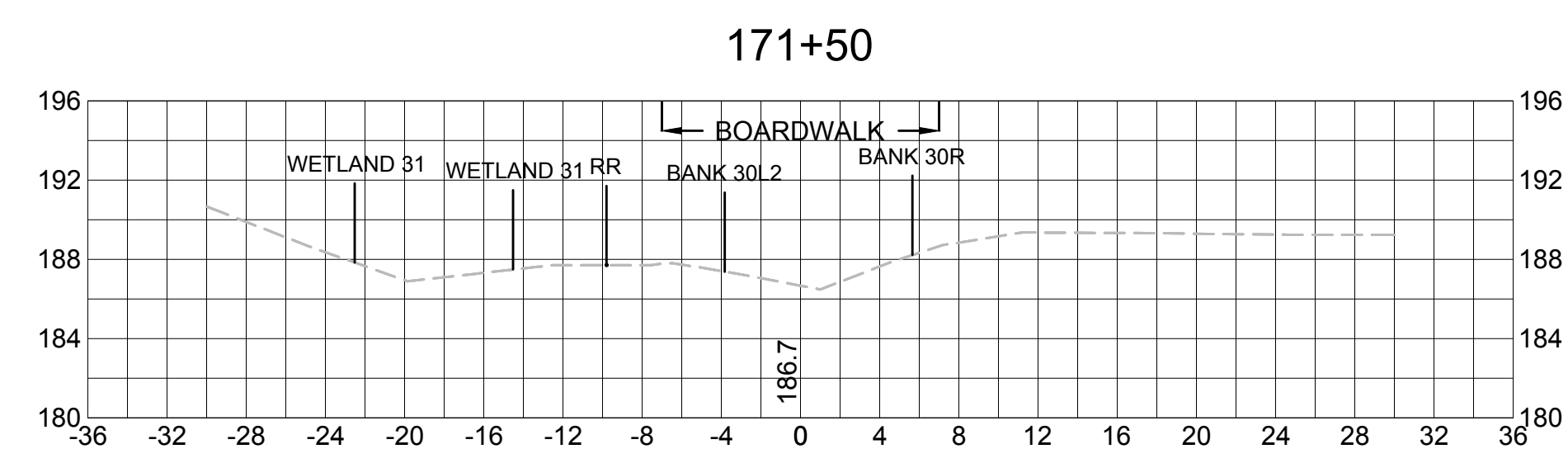
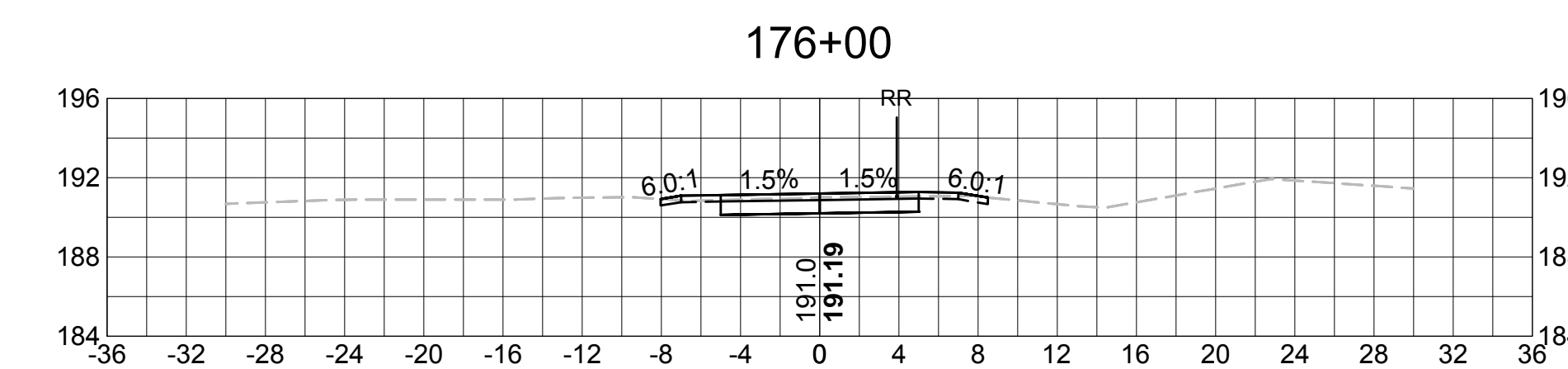
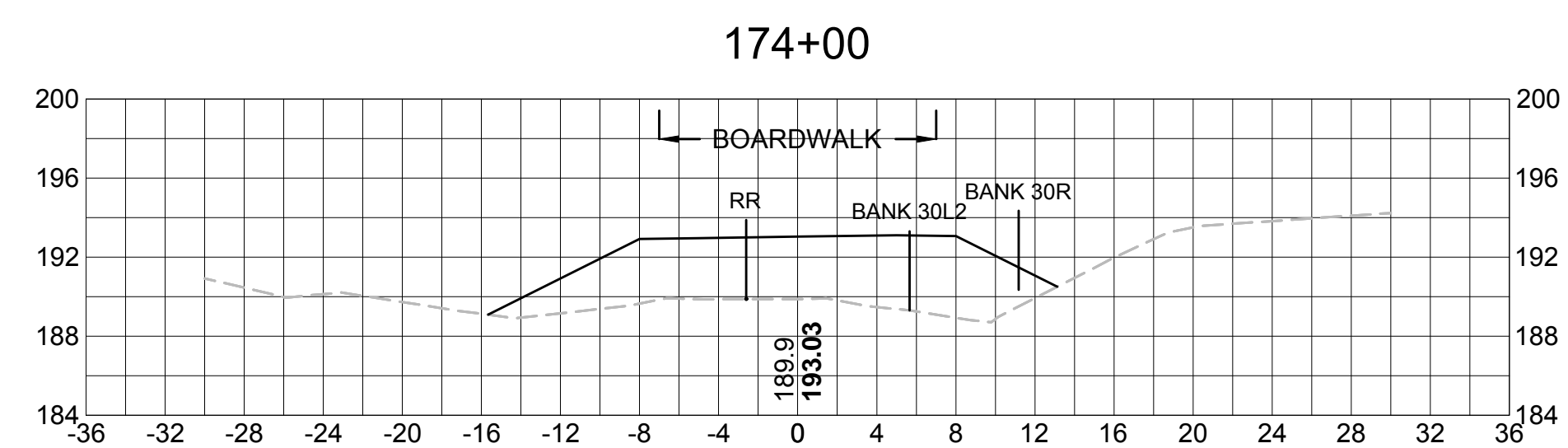
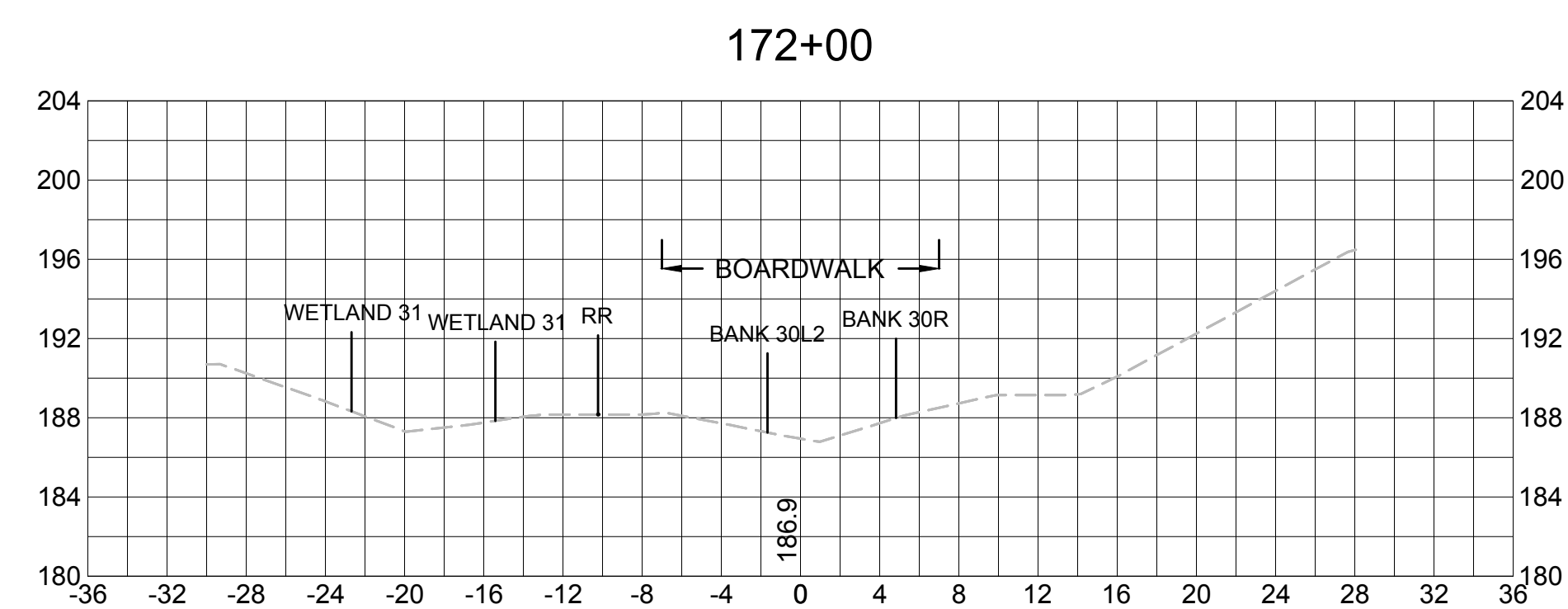
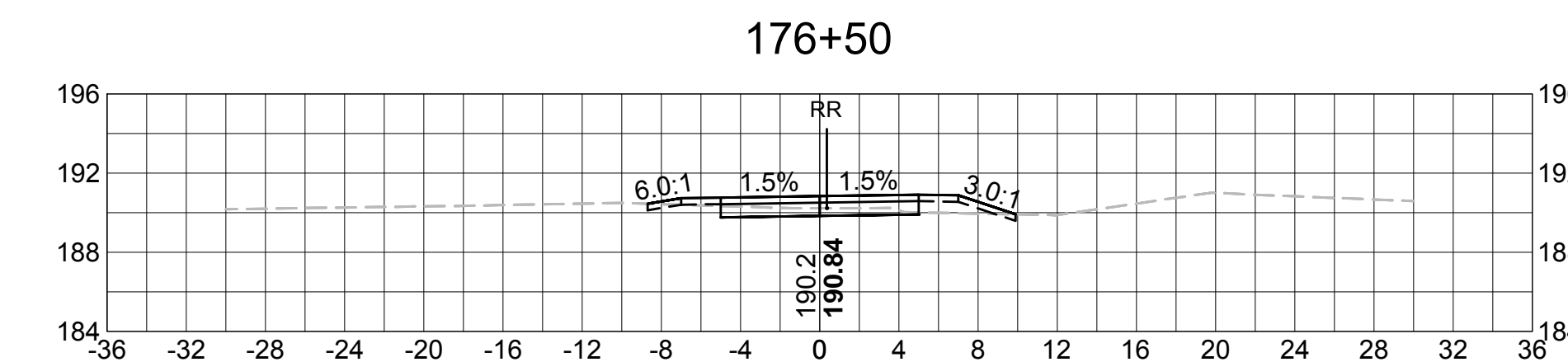
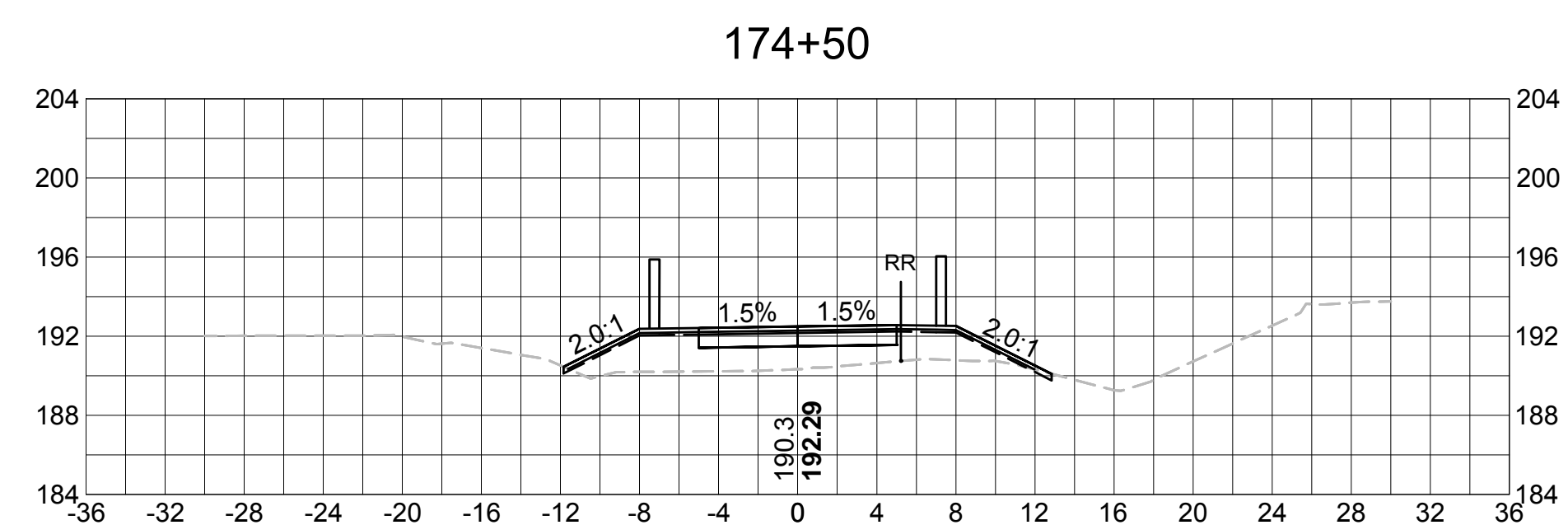
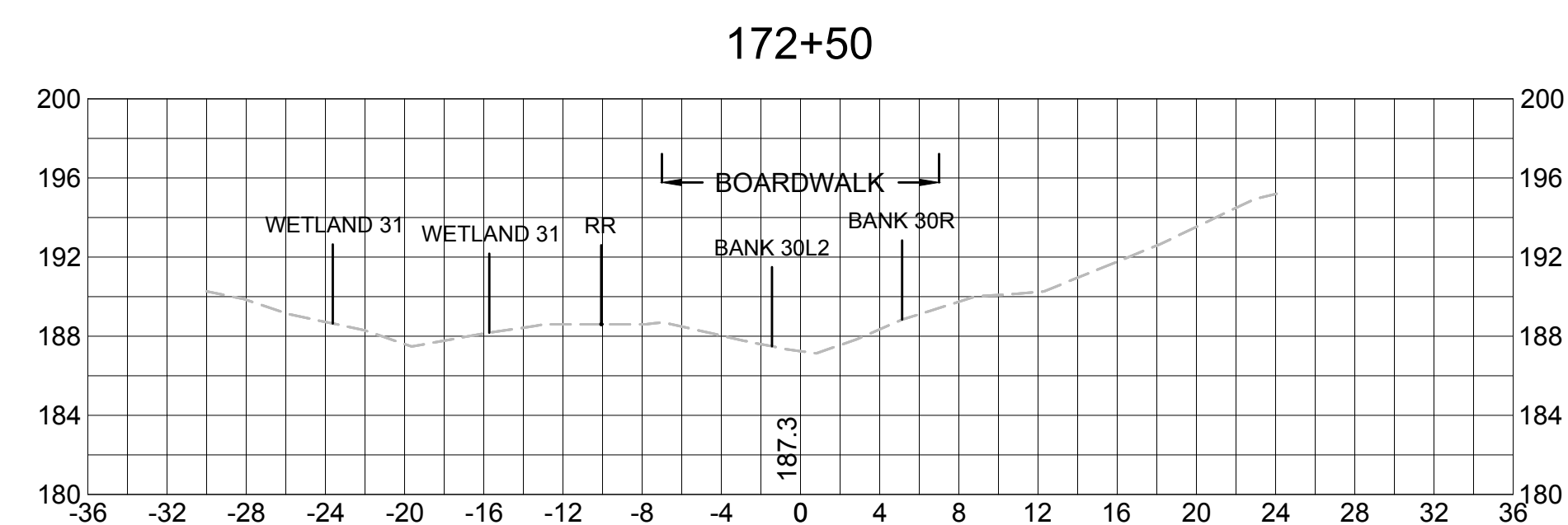
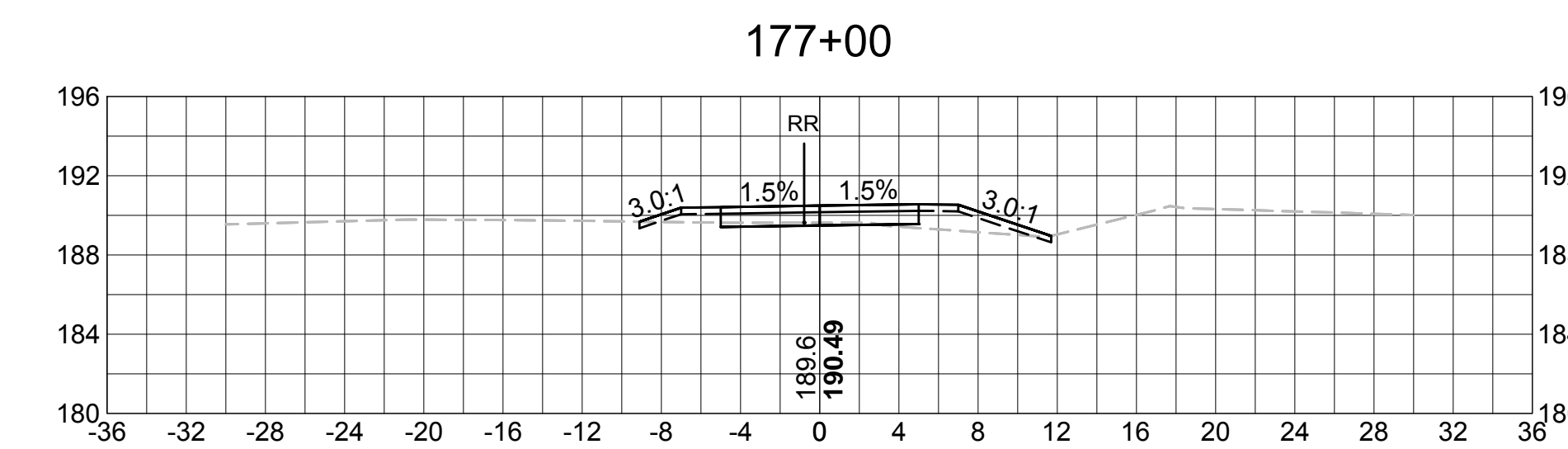
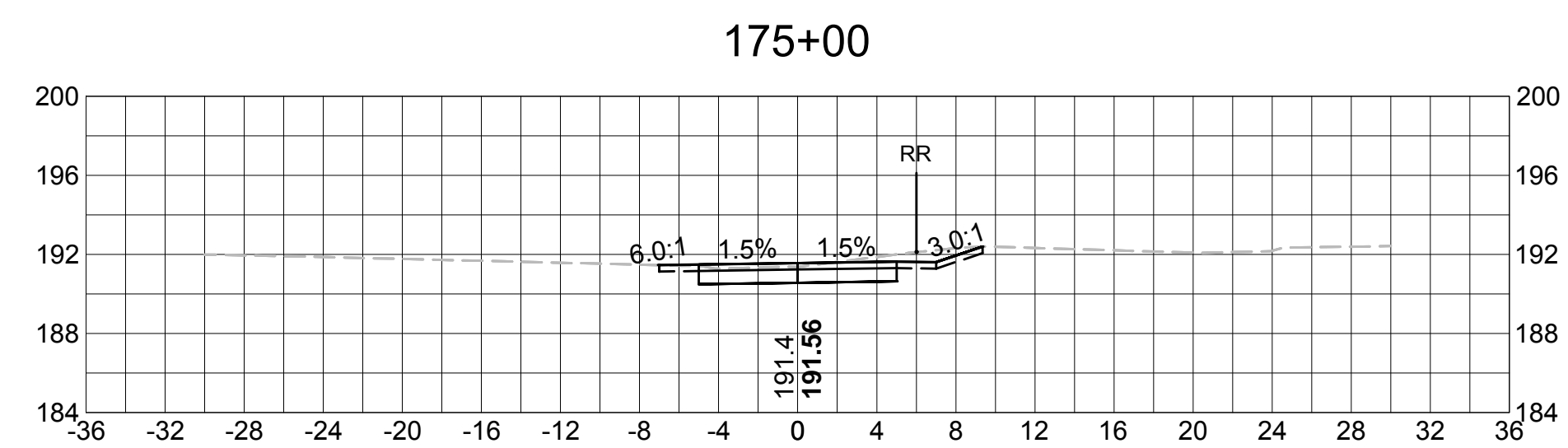
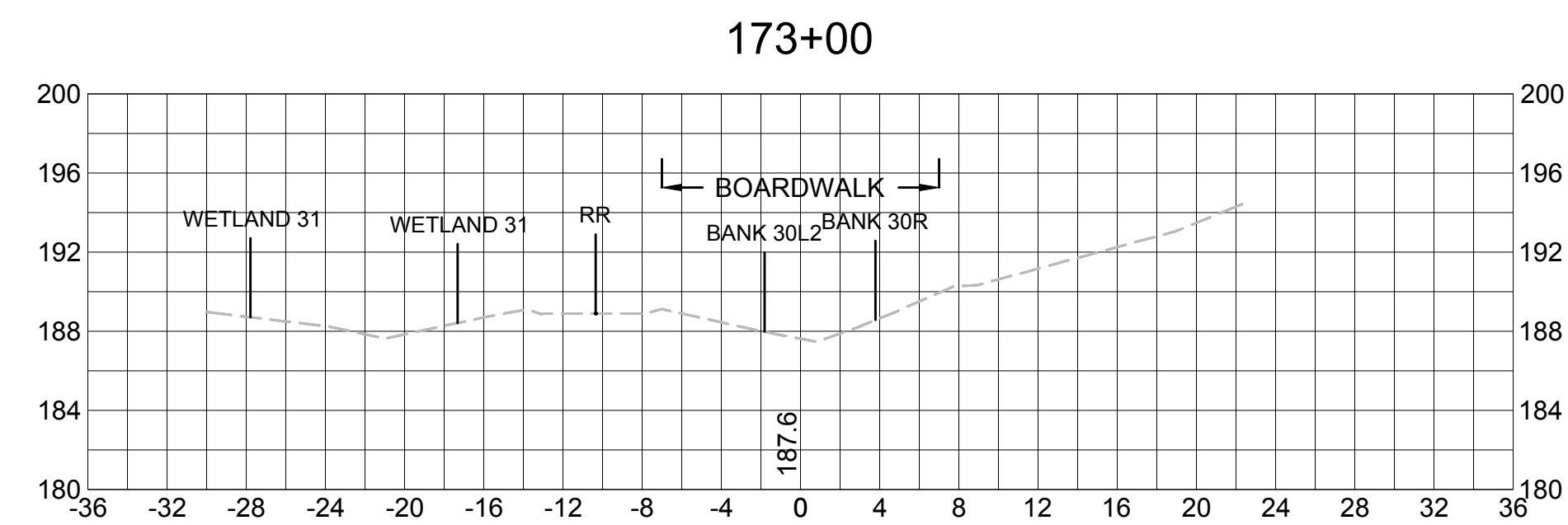
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	93	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



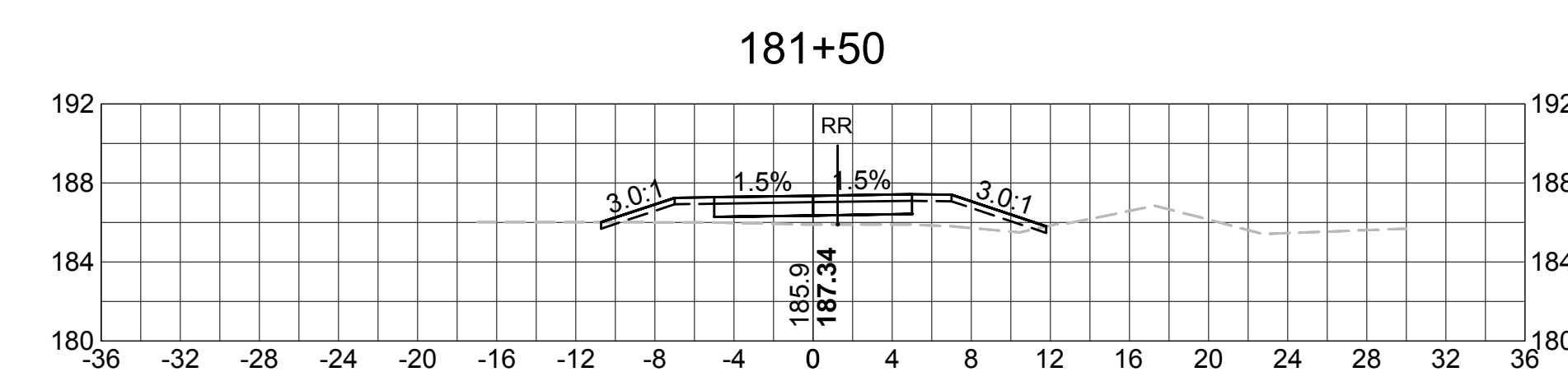
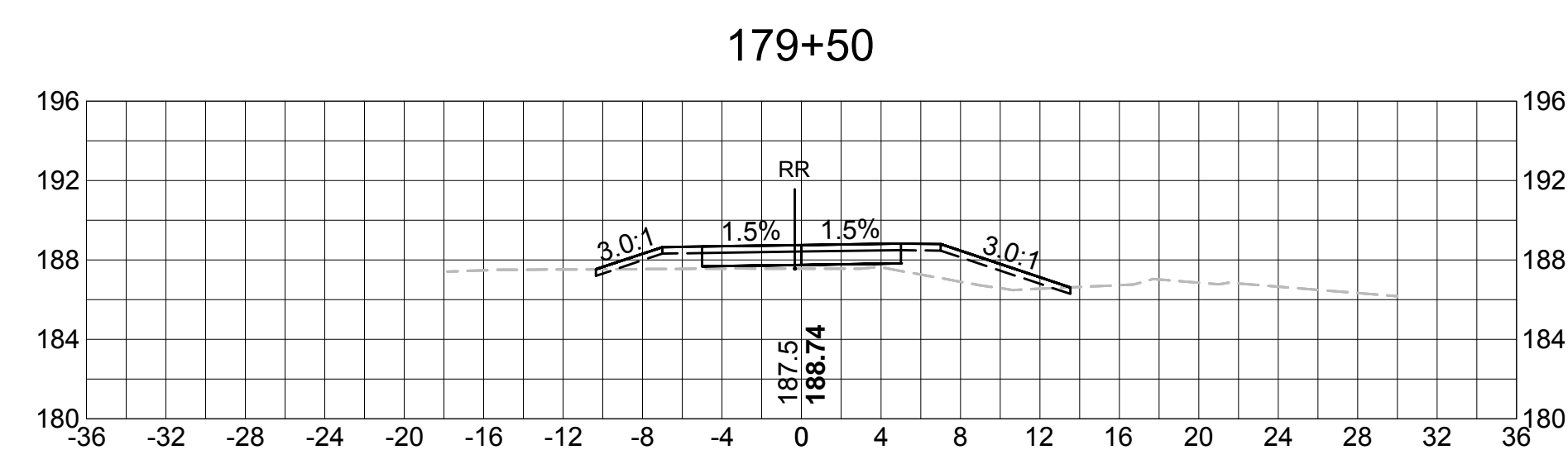
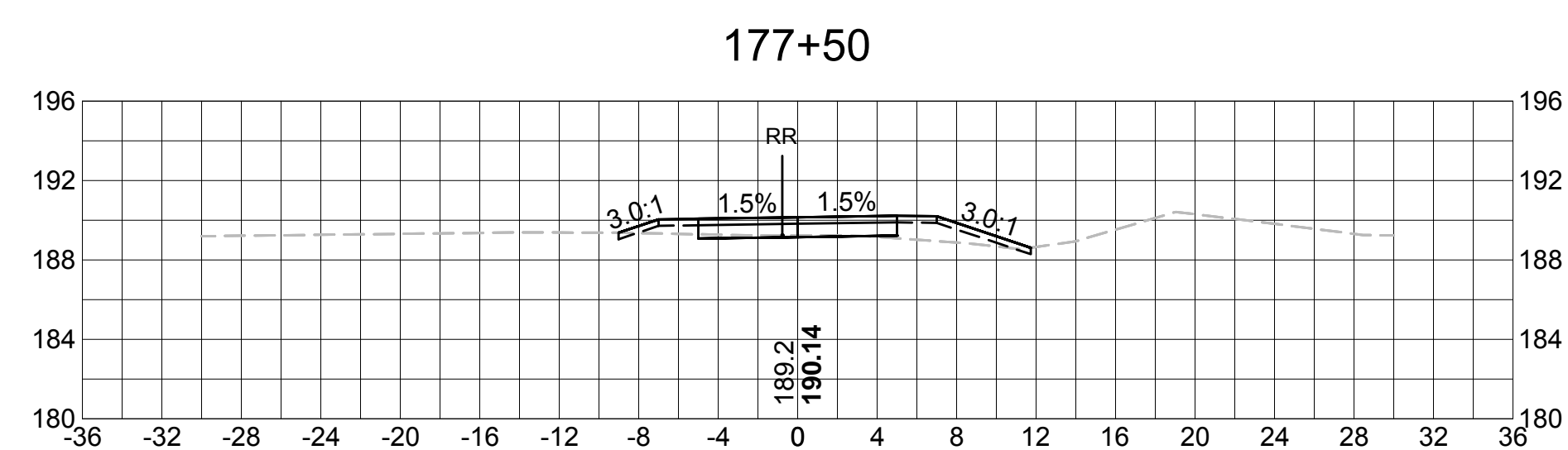
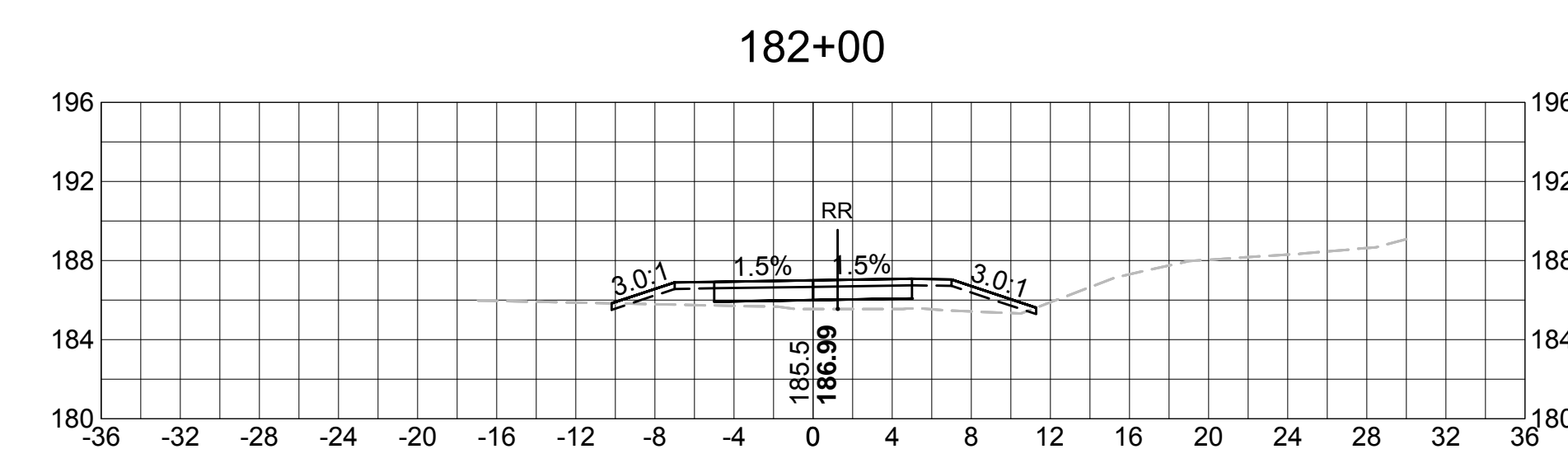
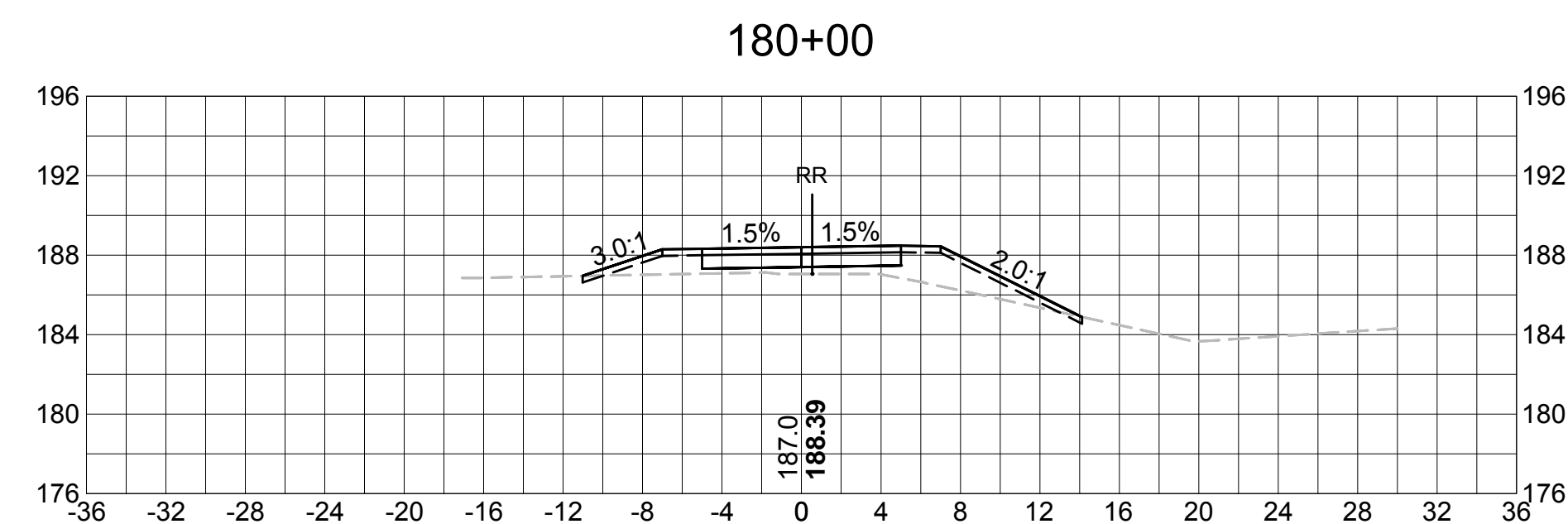
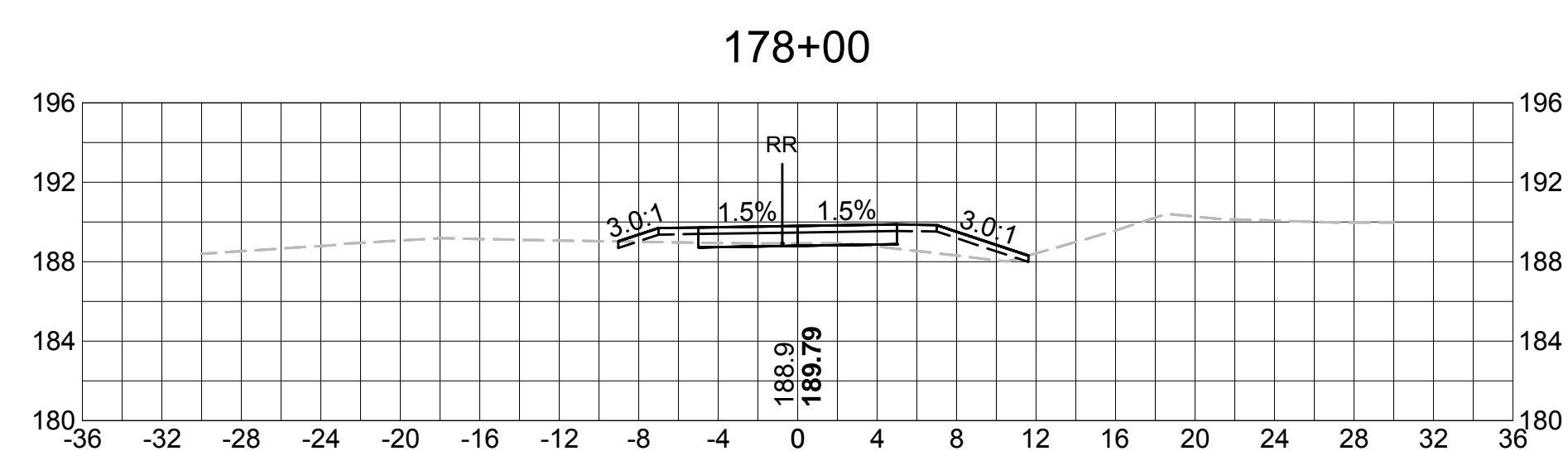
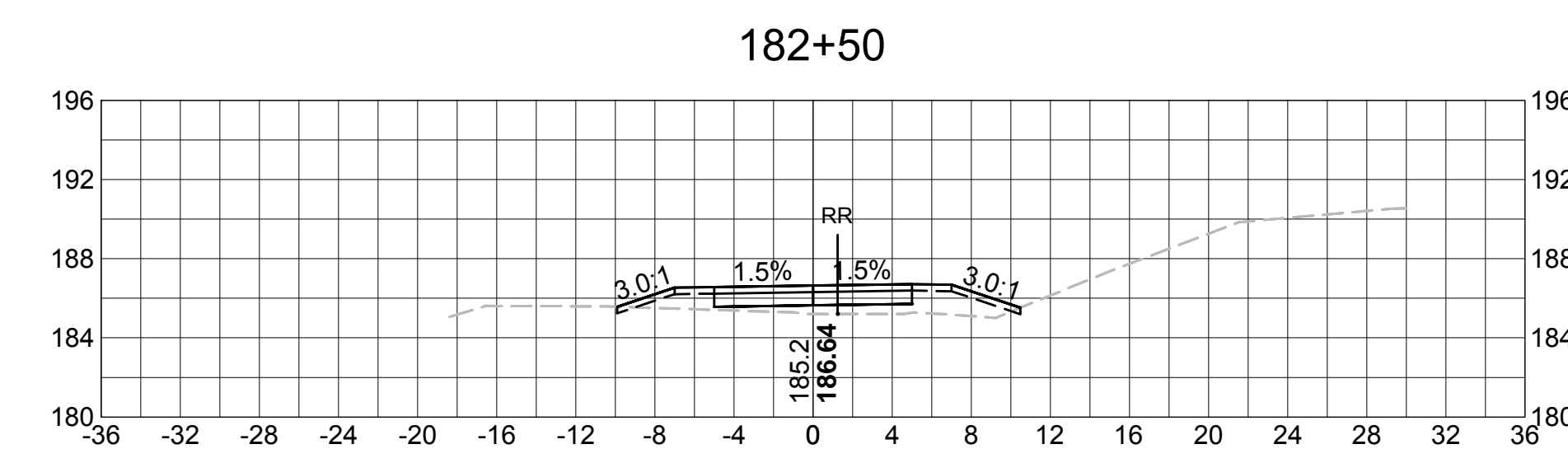
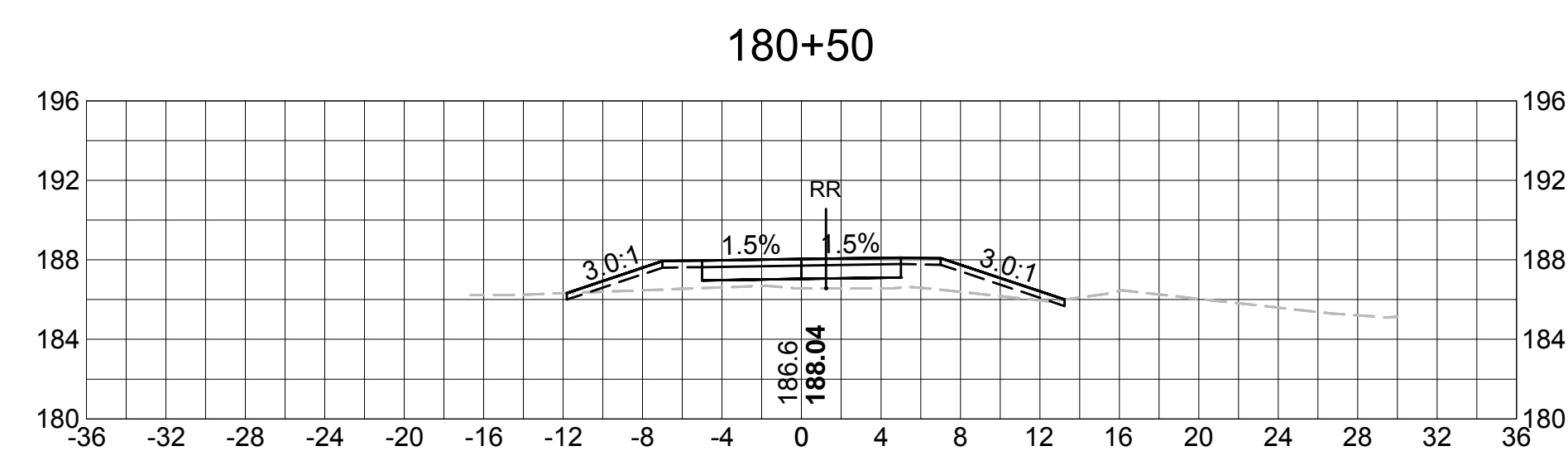
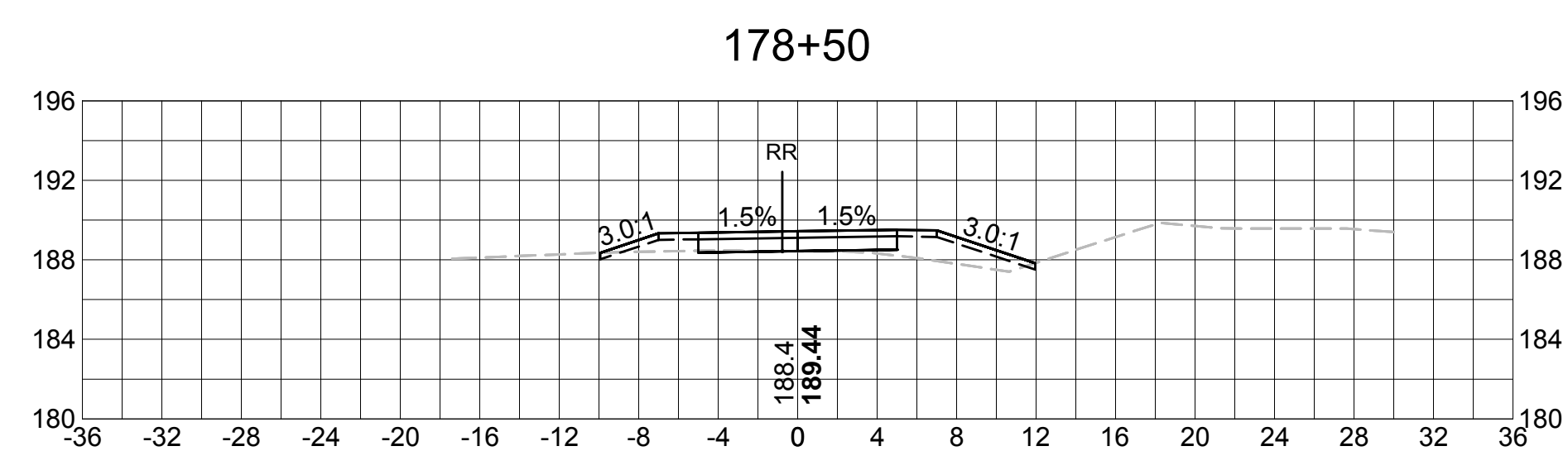
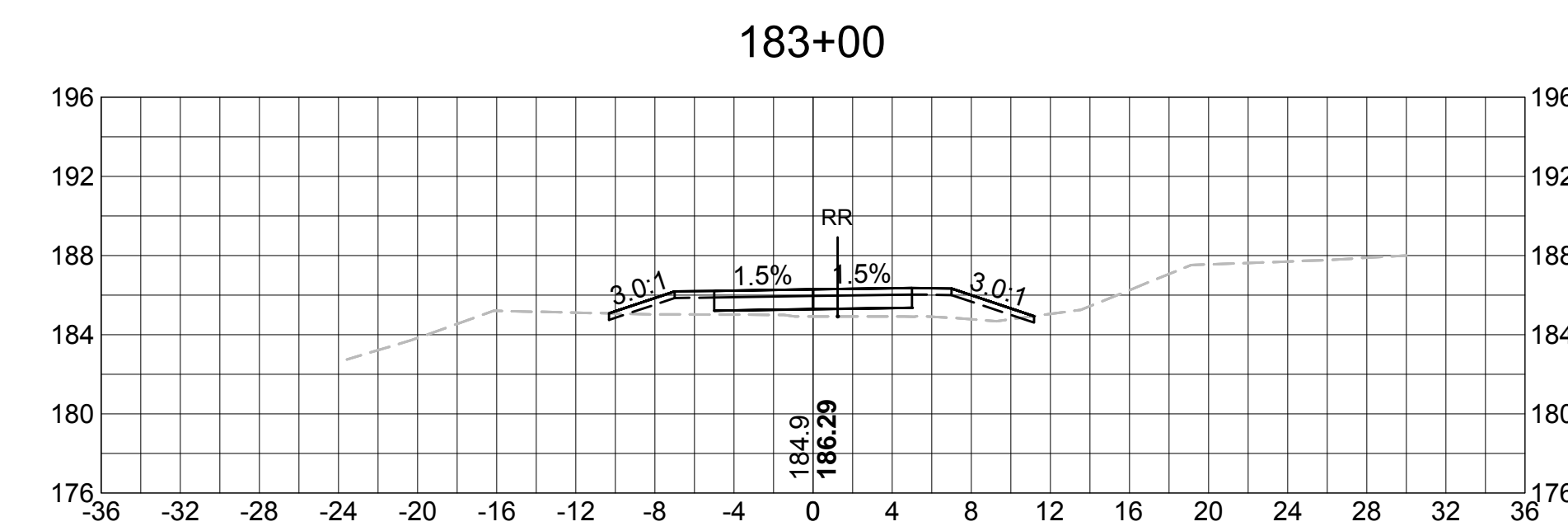
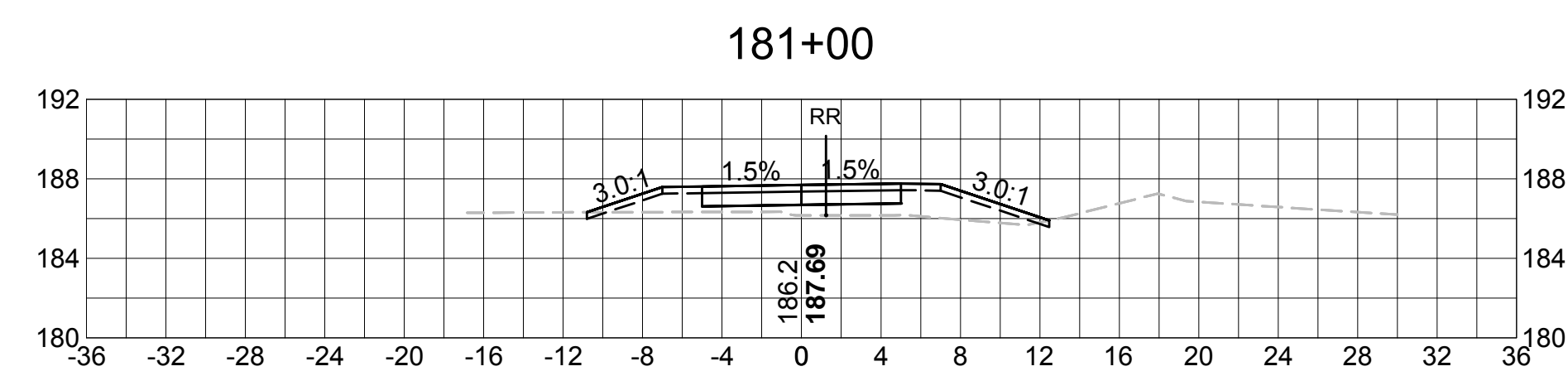
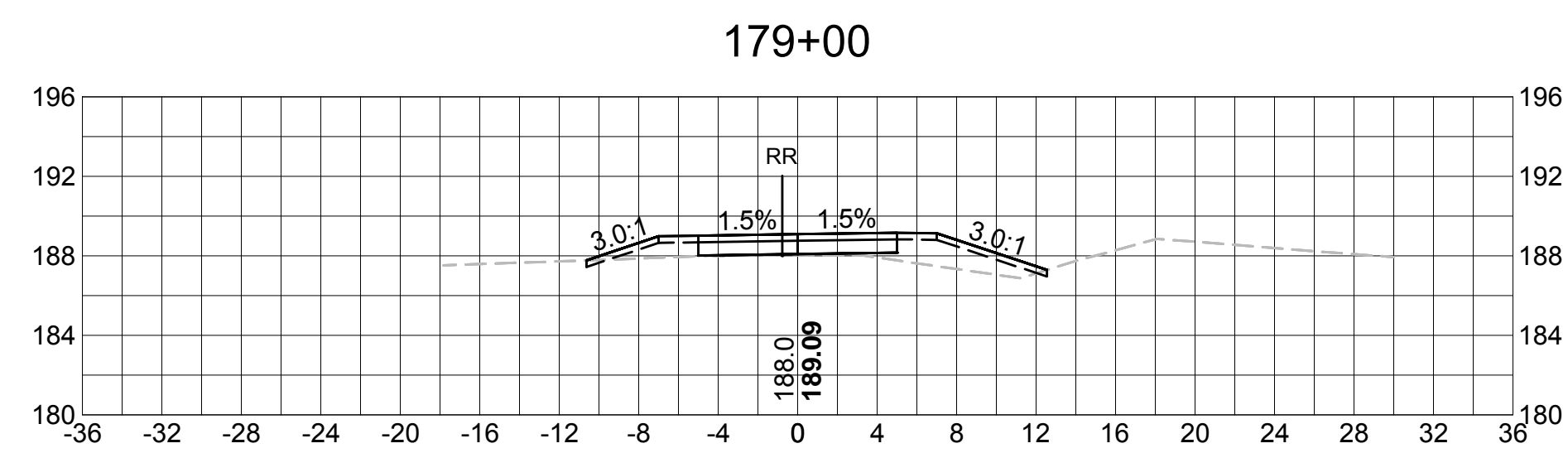
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	94	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



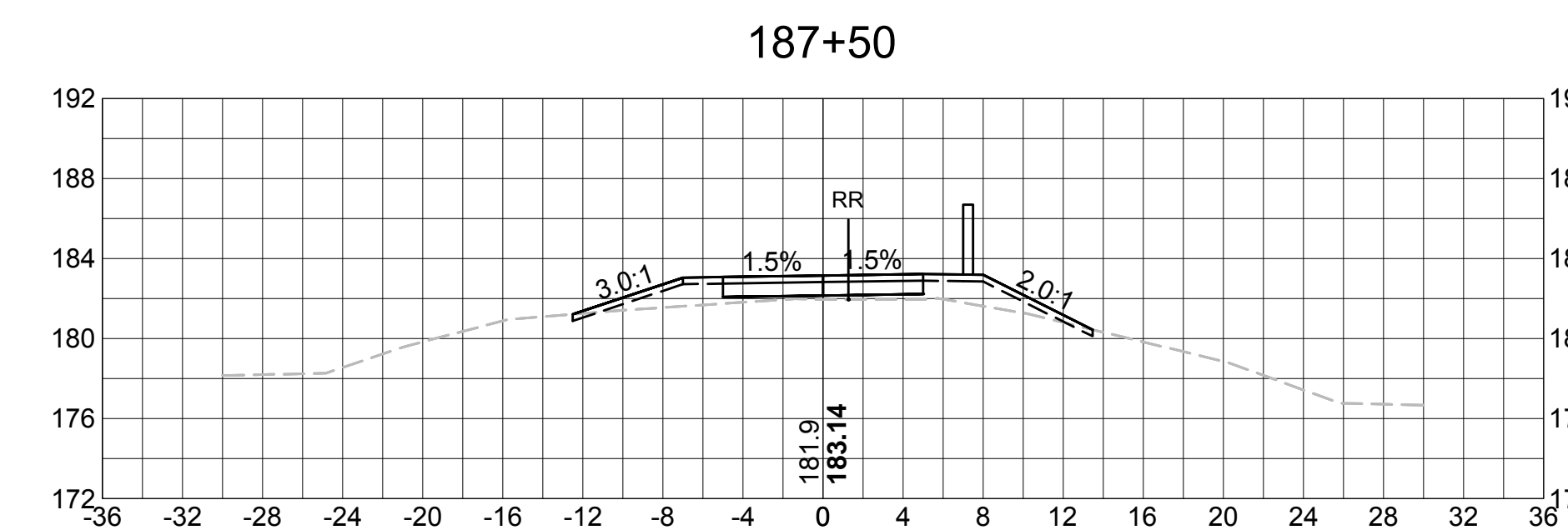
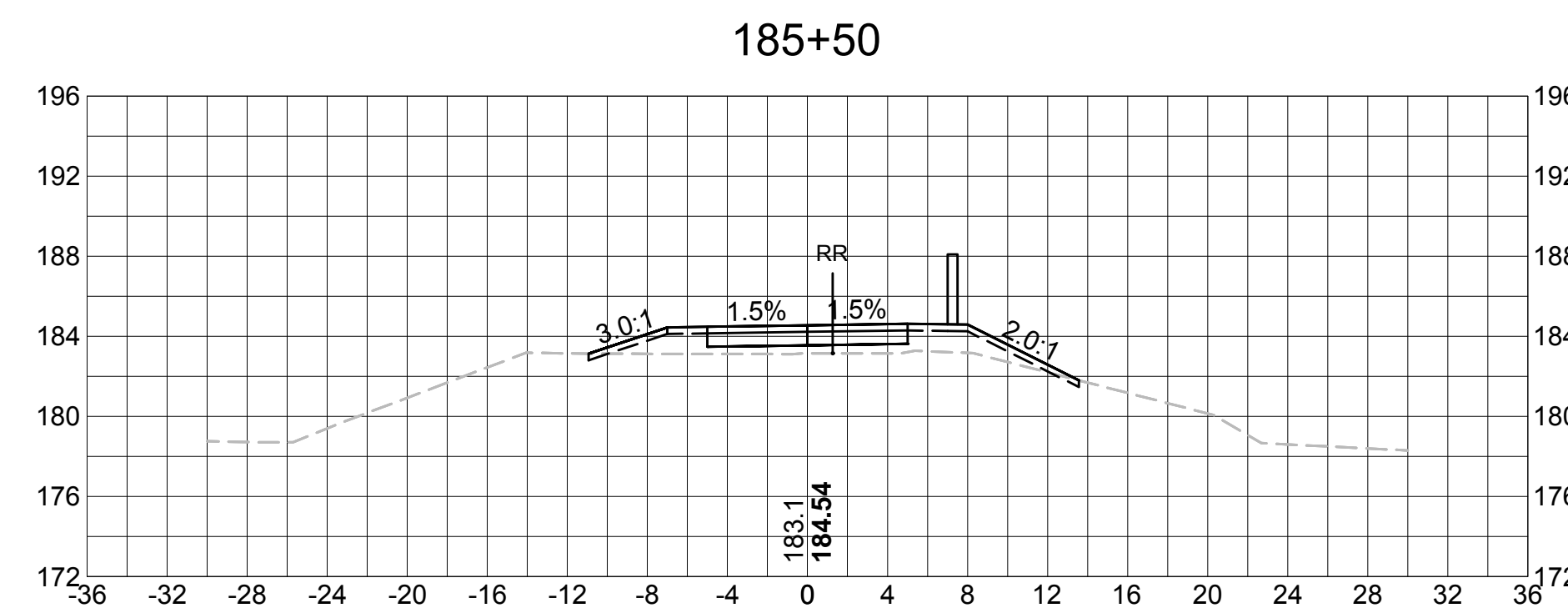
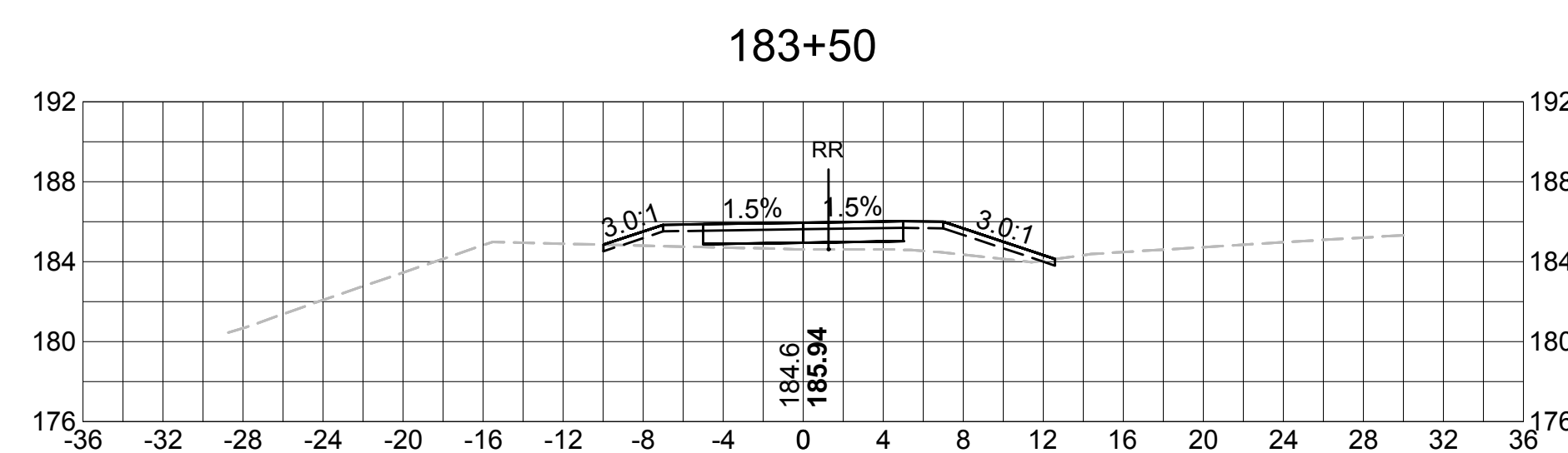
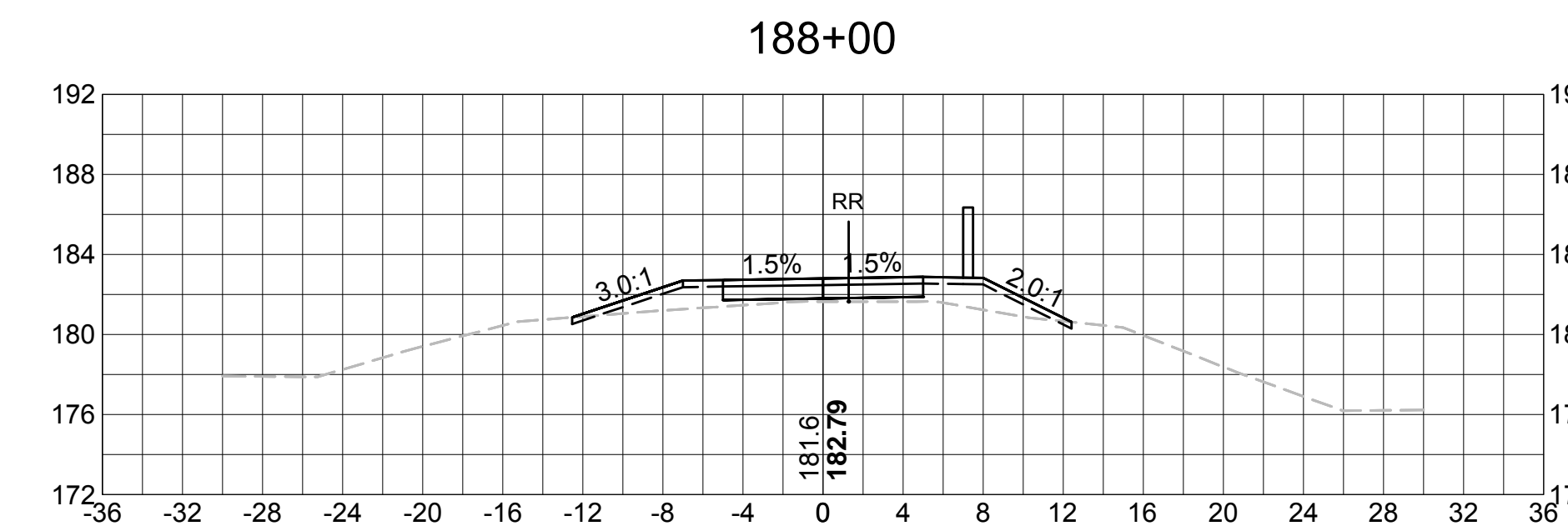
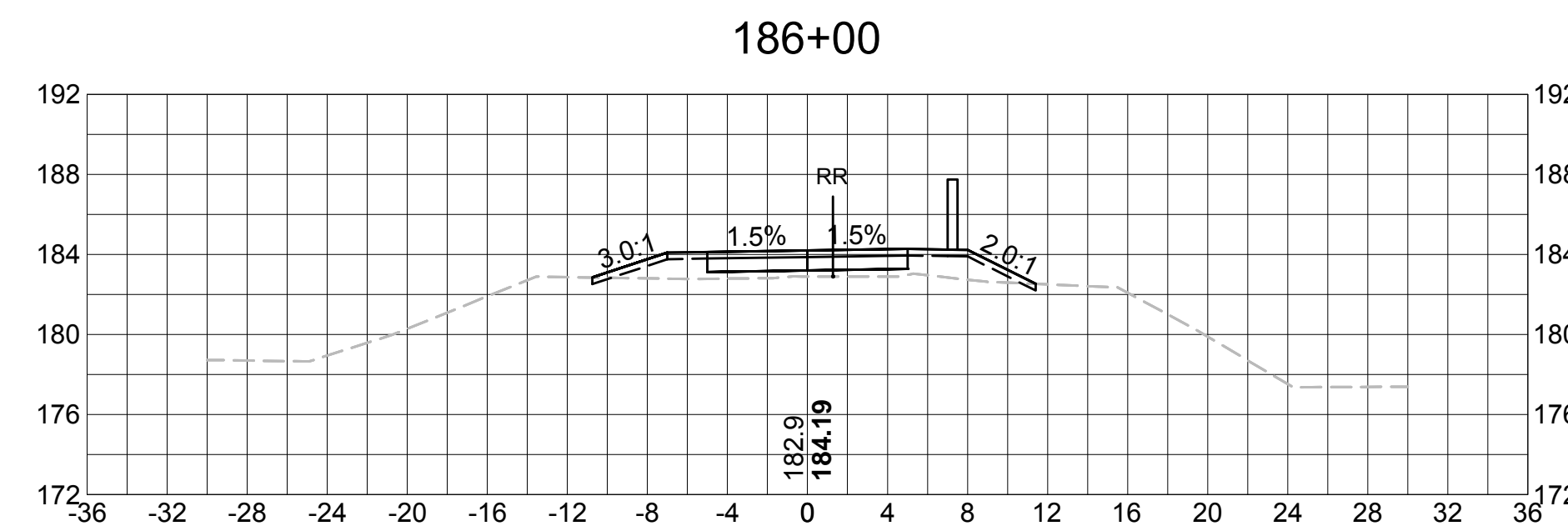
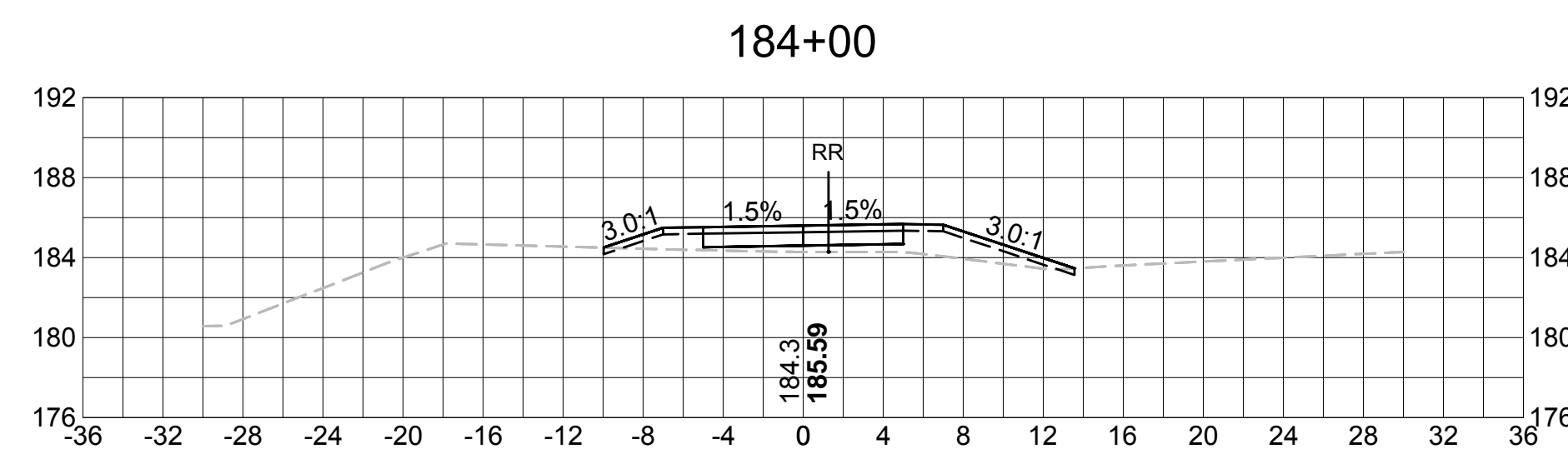
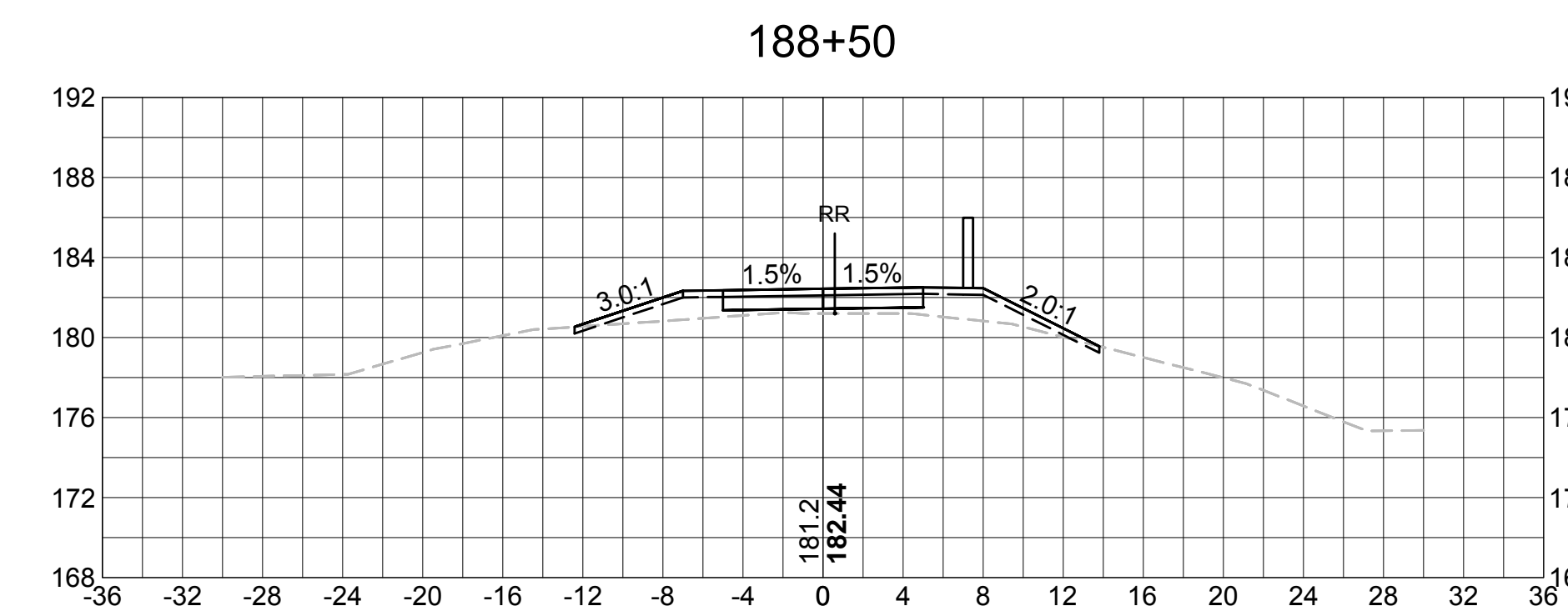
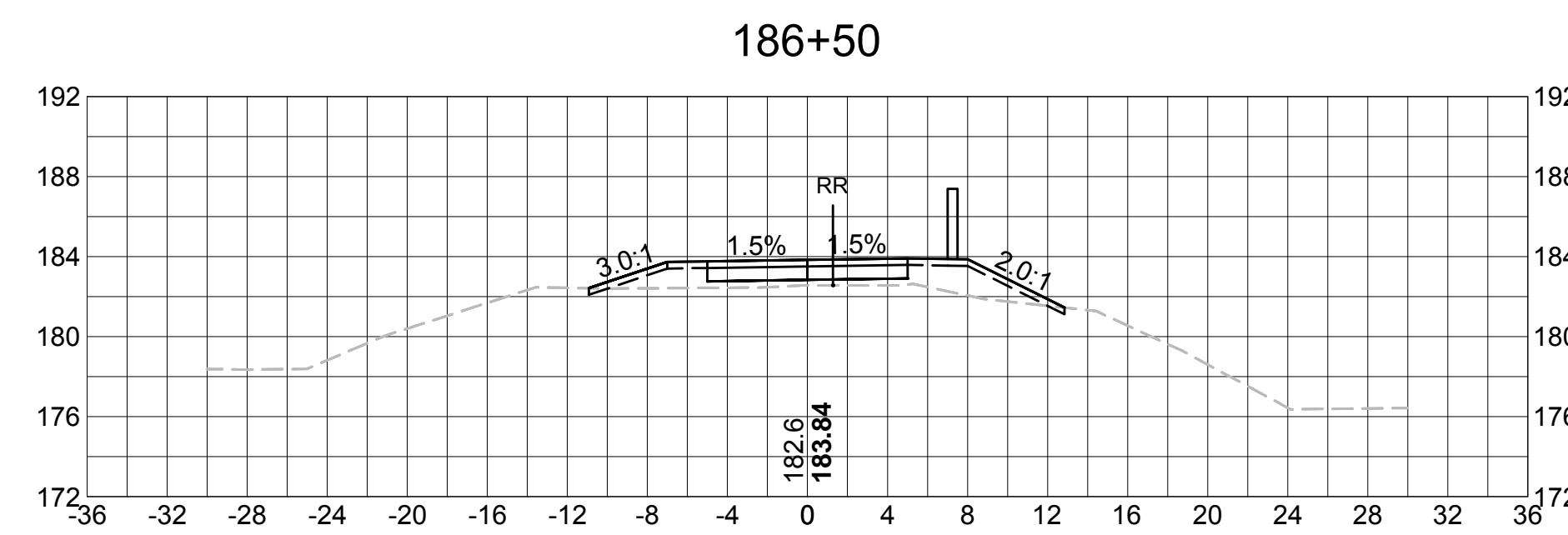
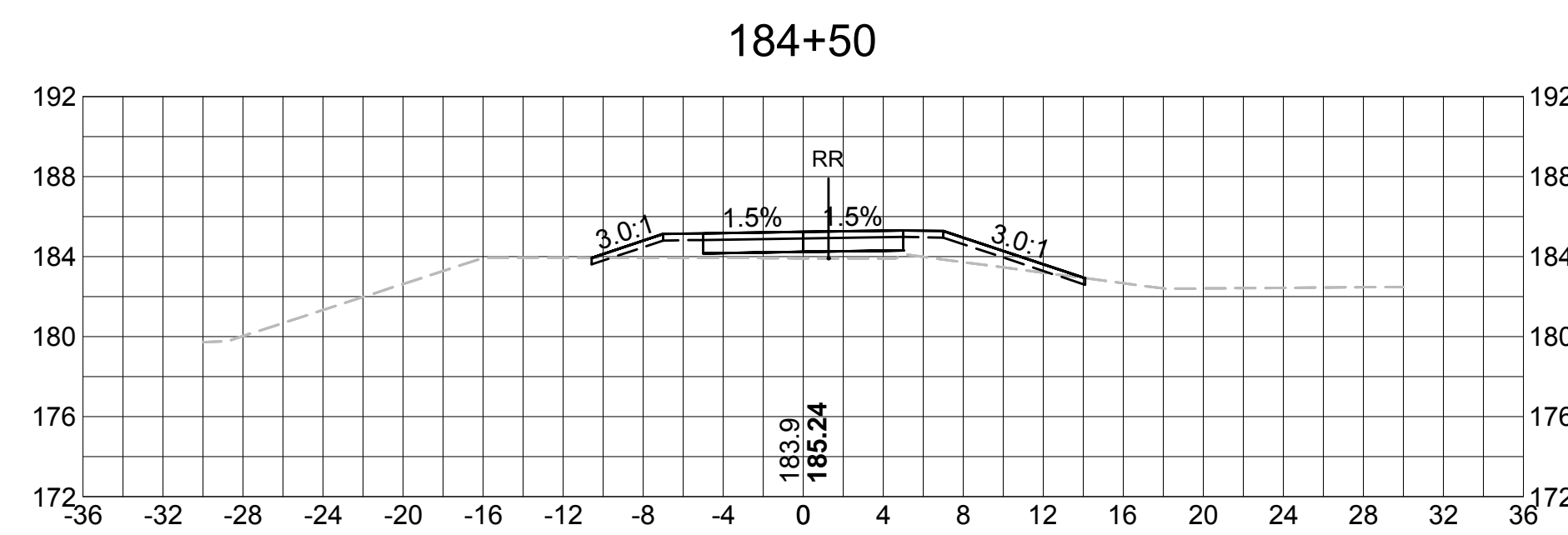
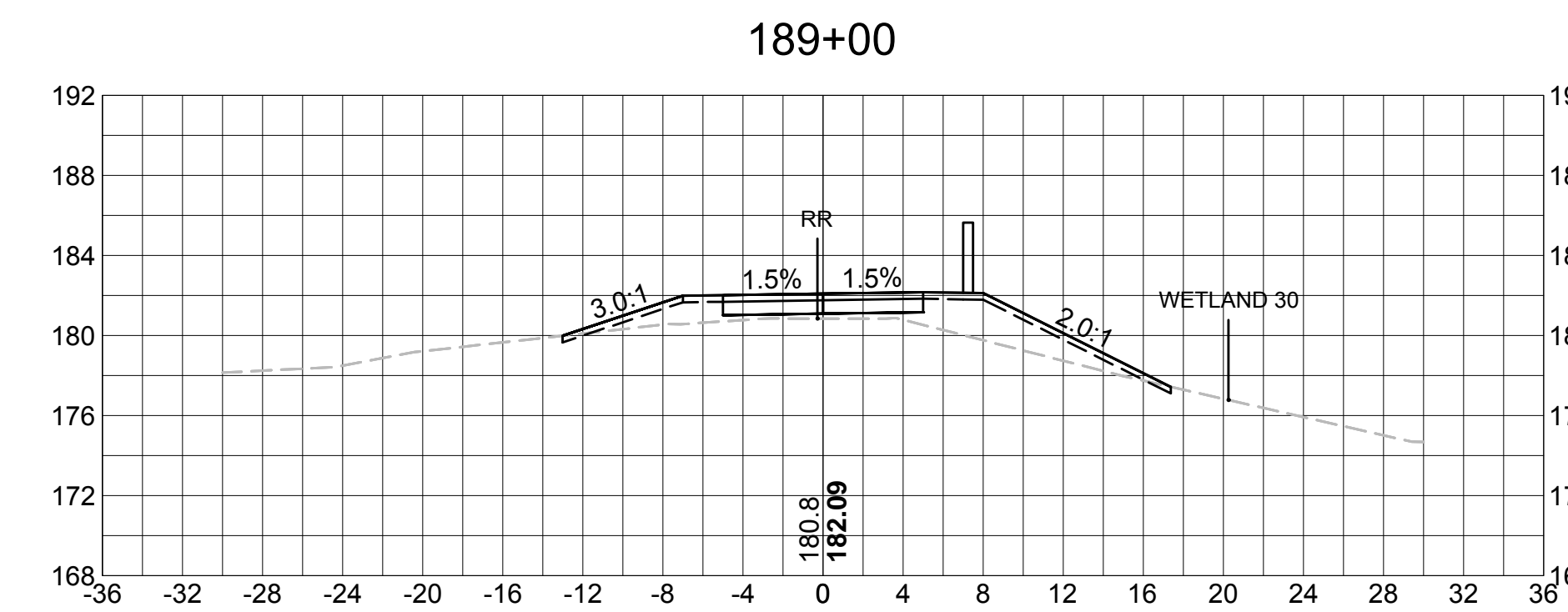
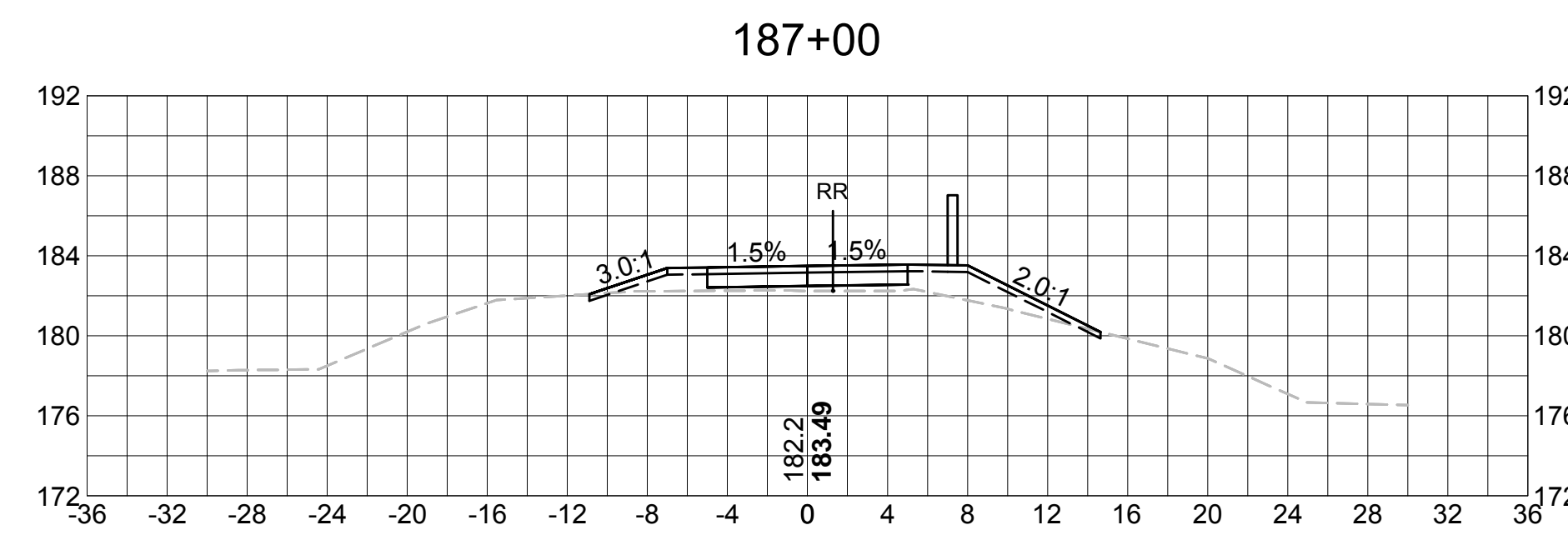
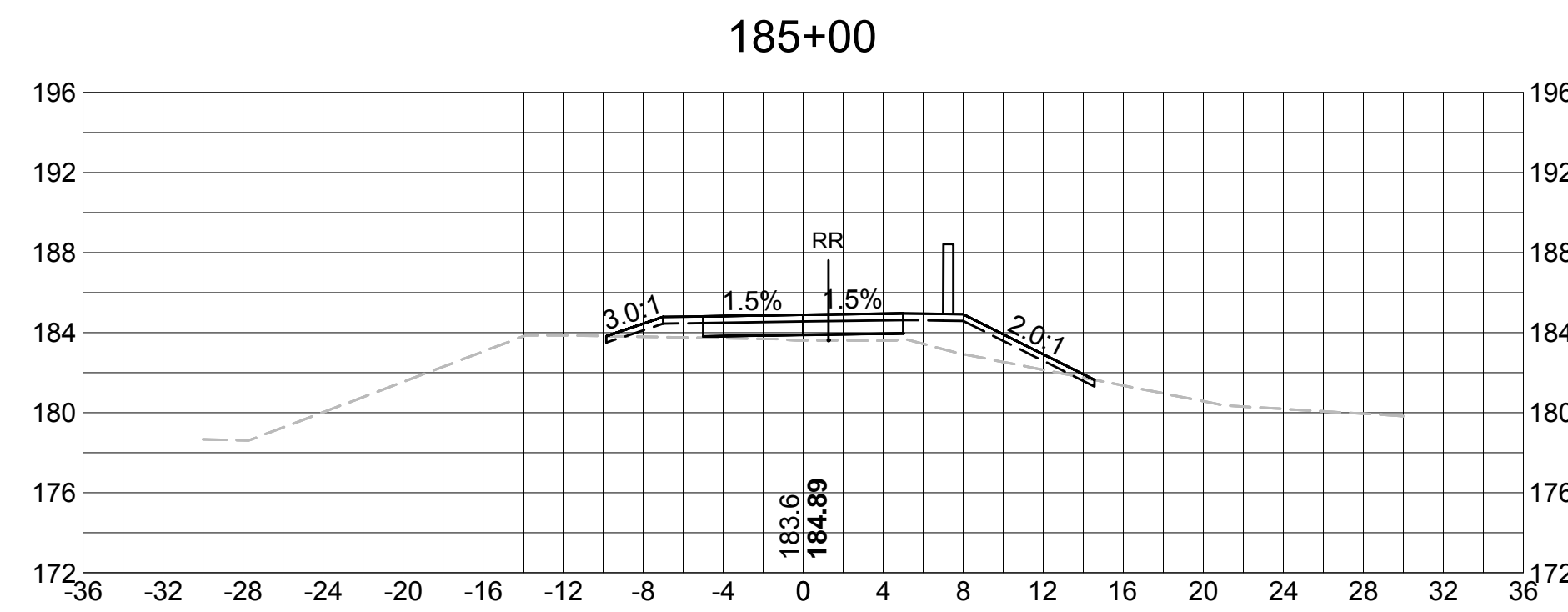
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	95	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



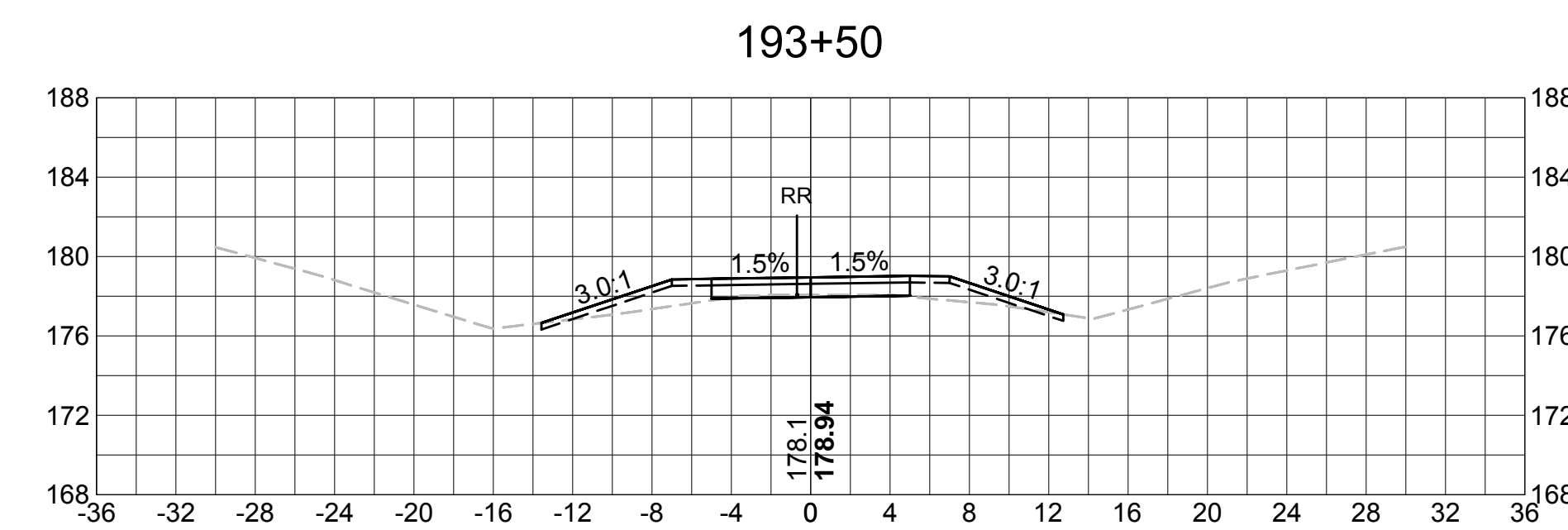
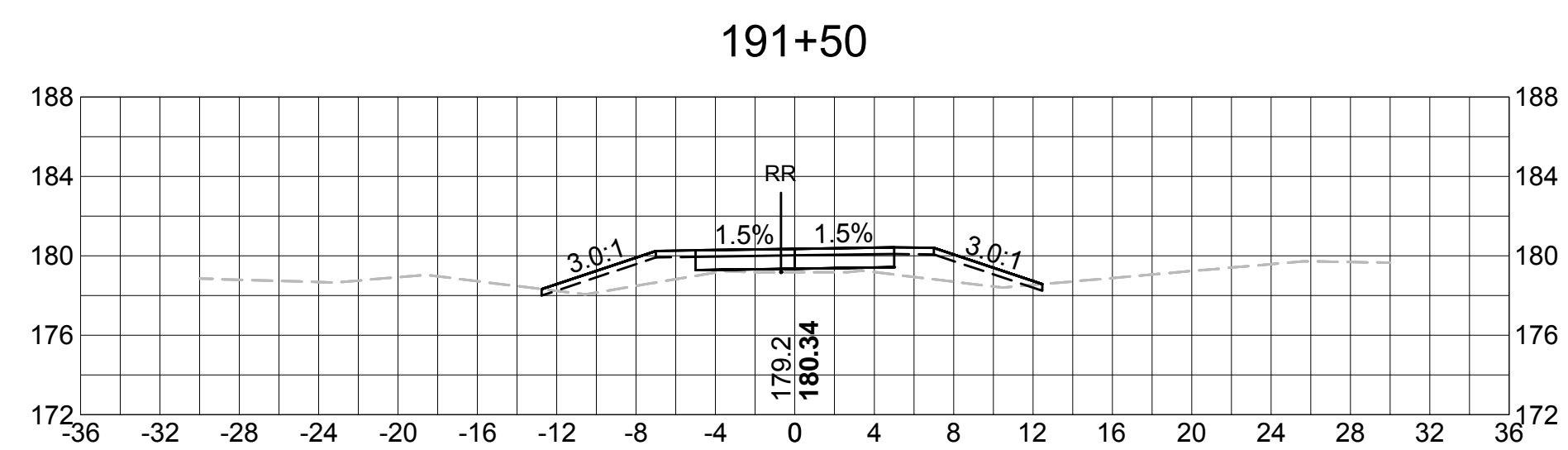
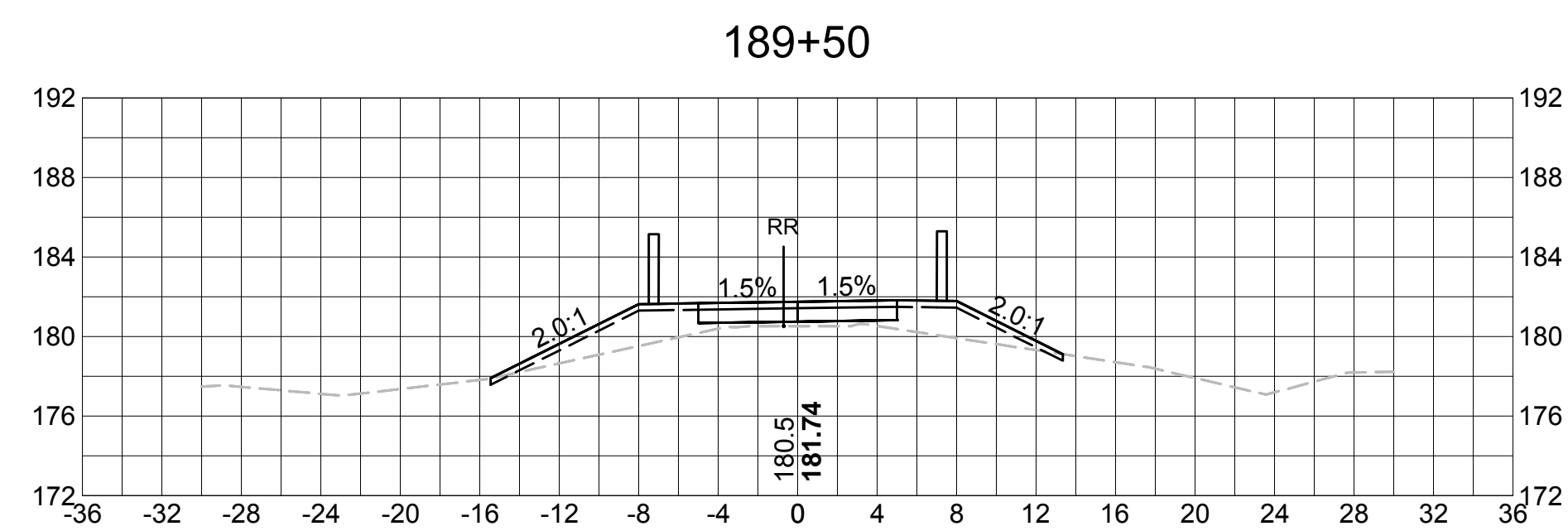
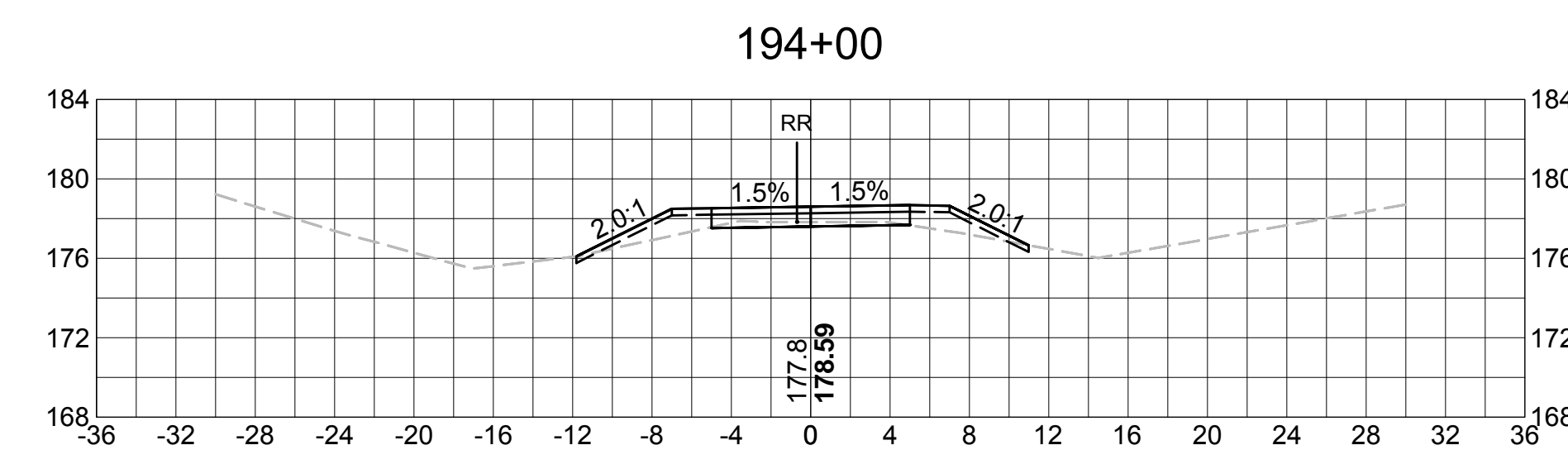
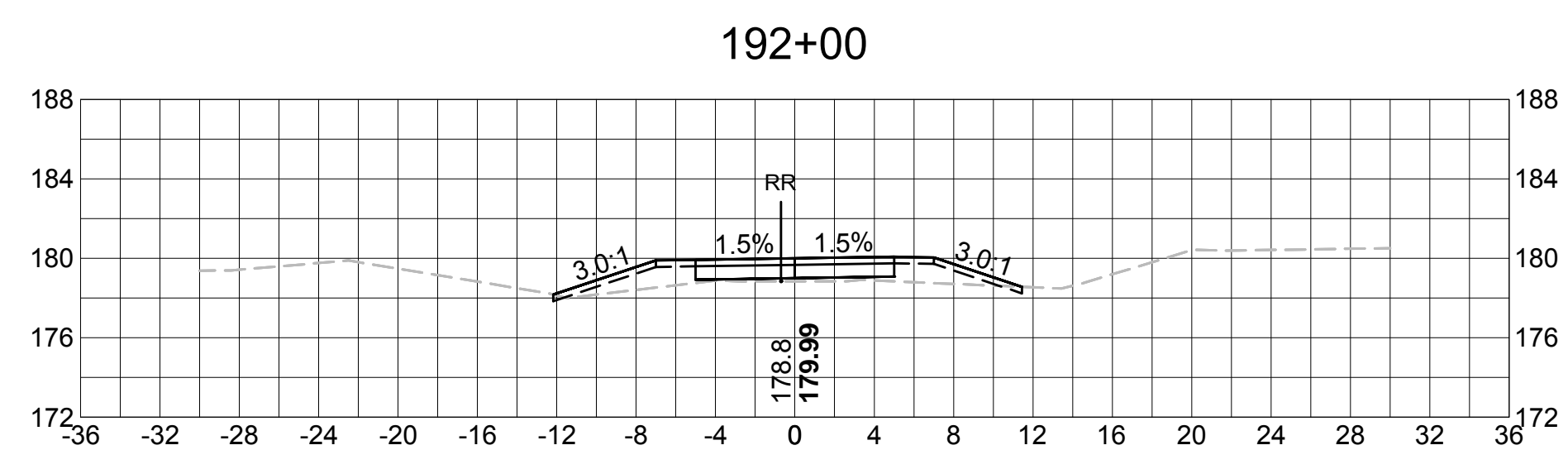
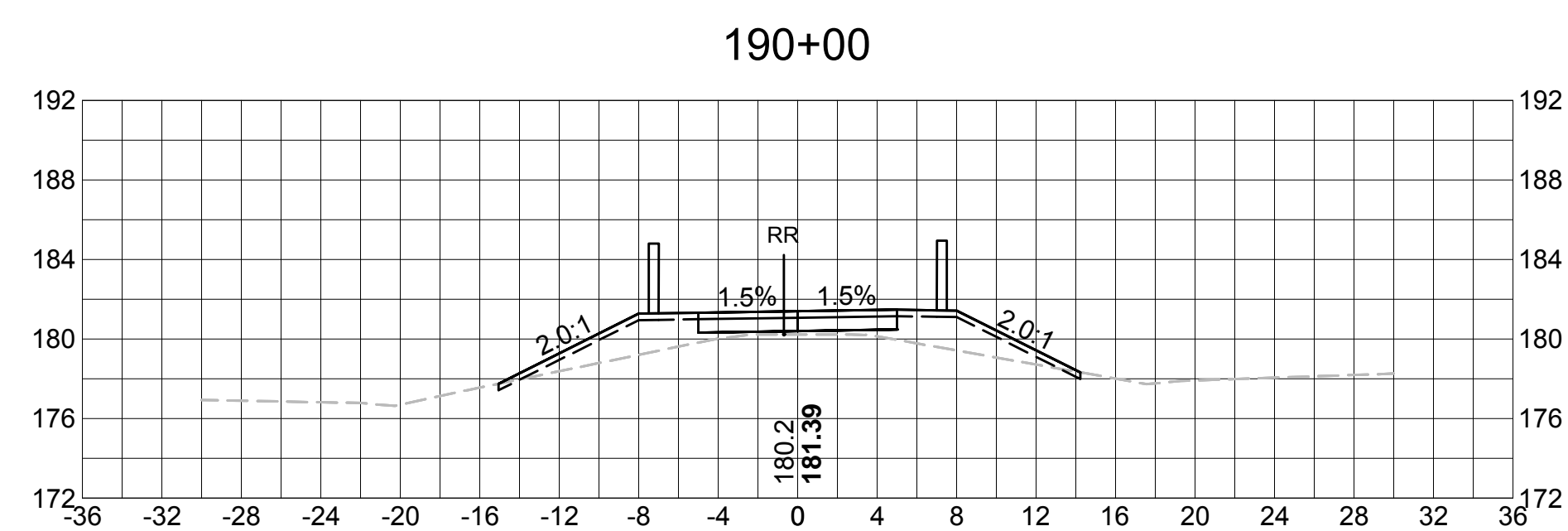
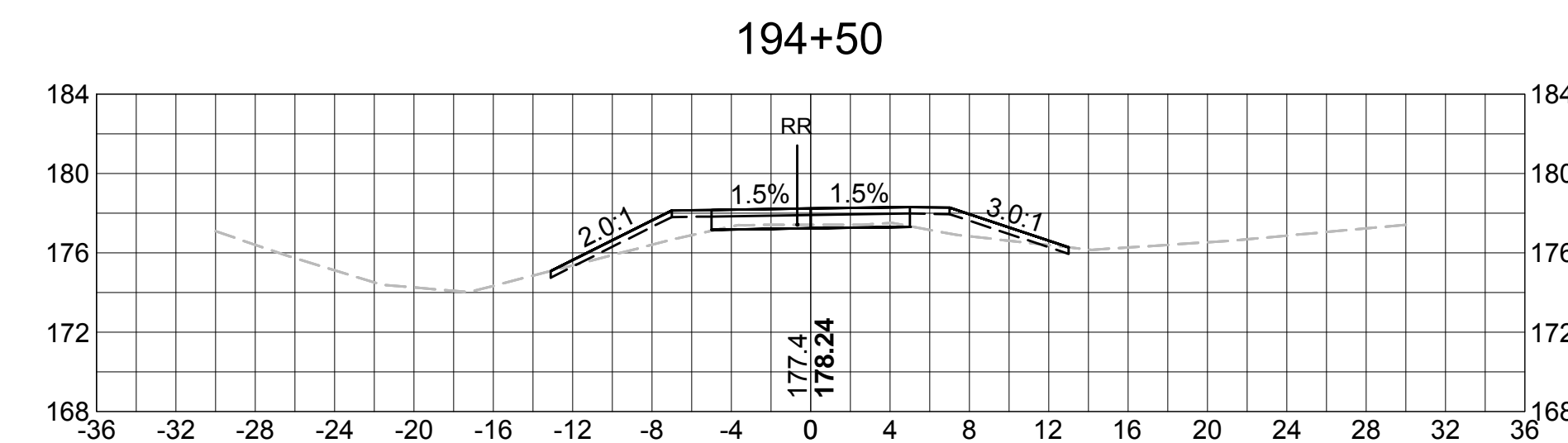
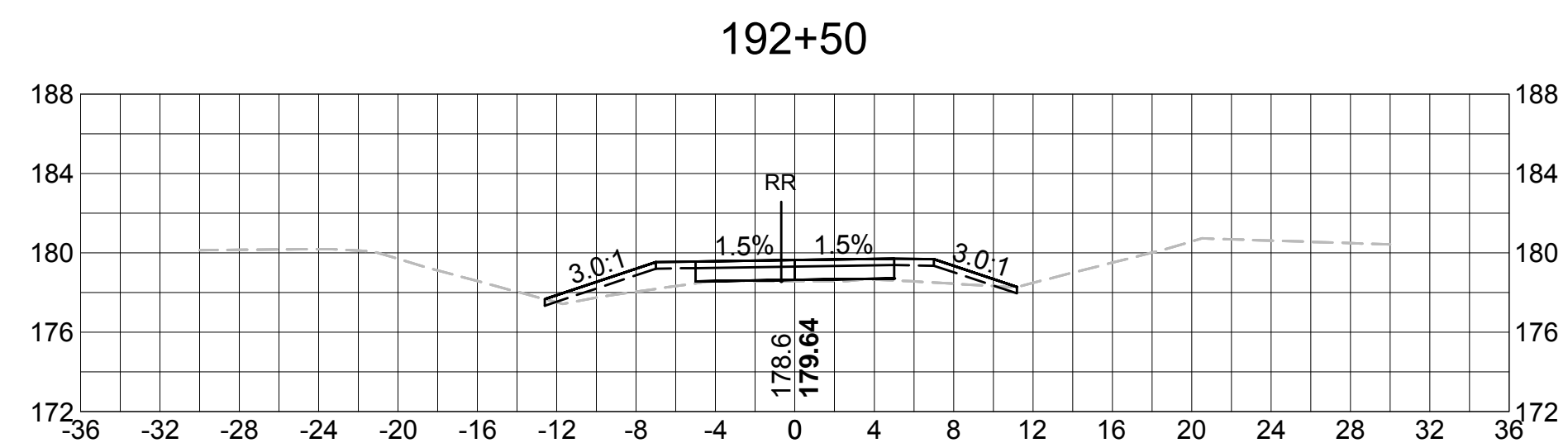
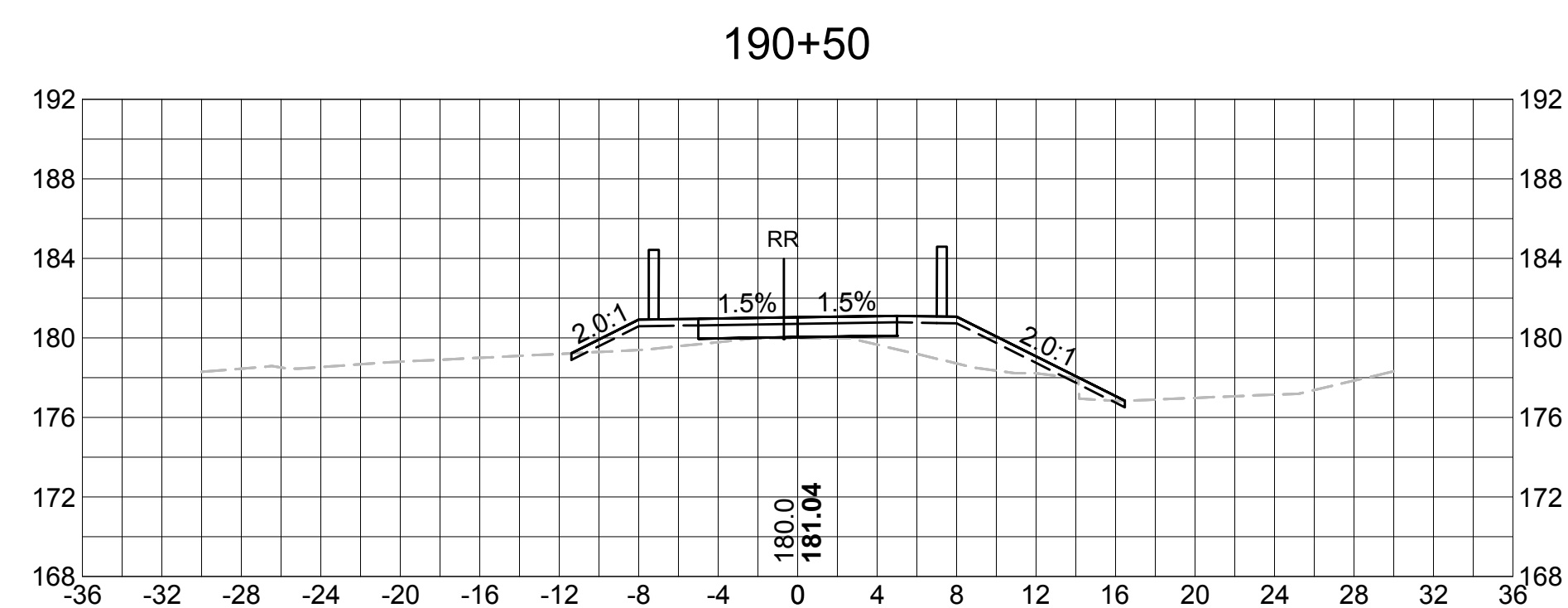
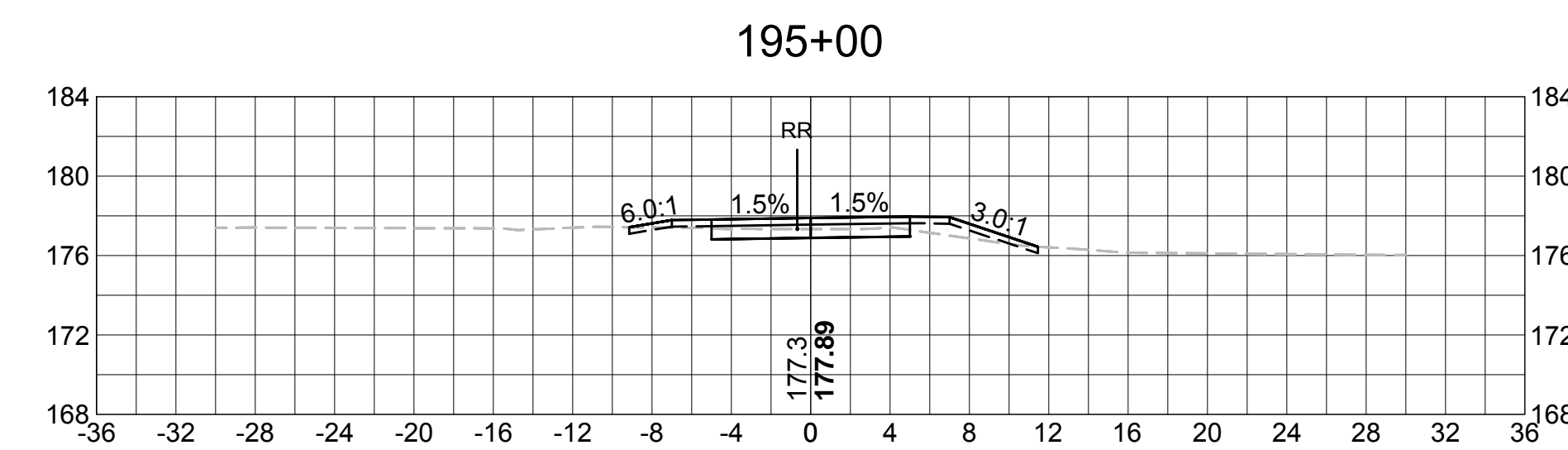
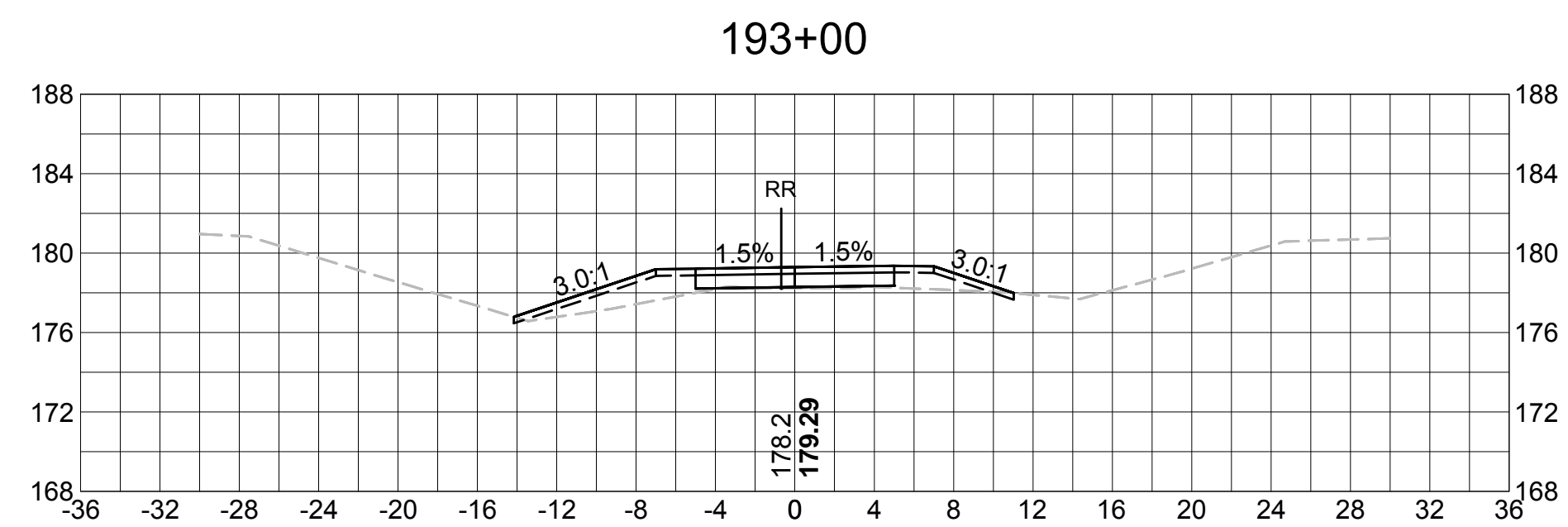
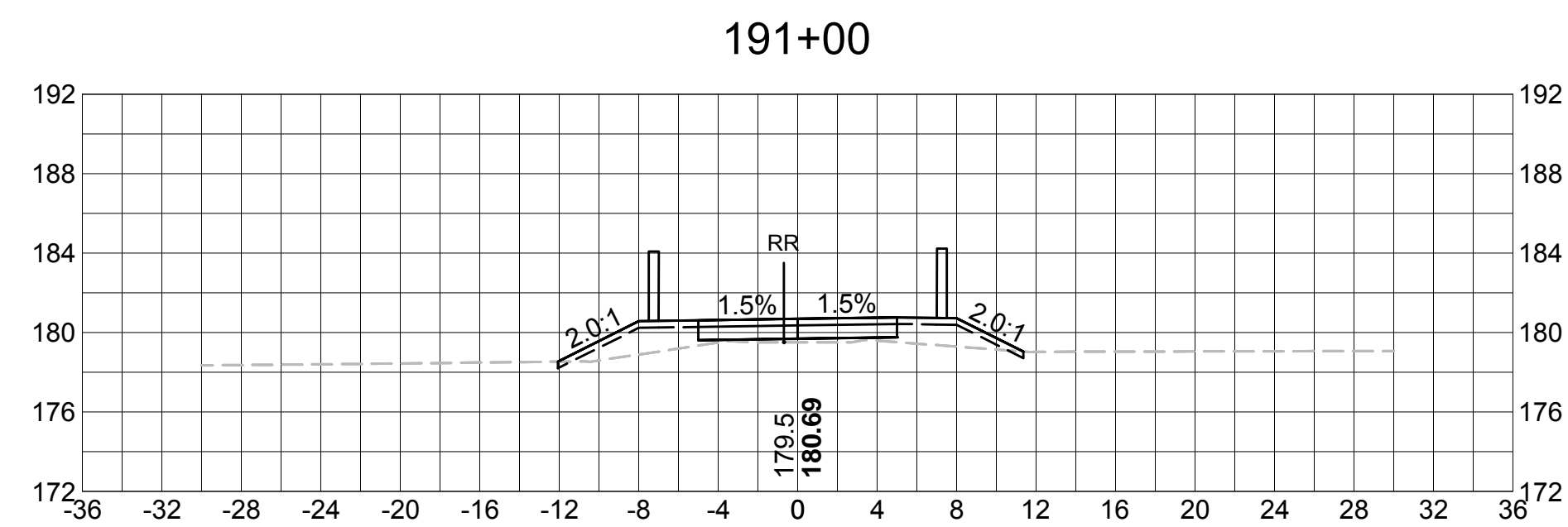
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	96	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	97	123
PROJECT FILE NO. 608164			

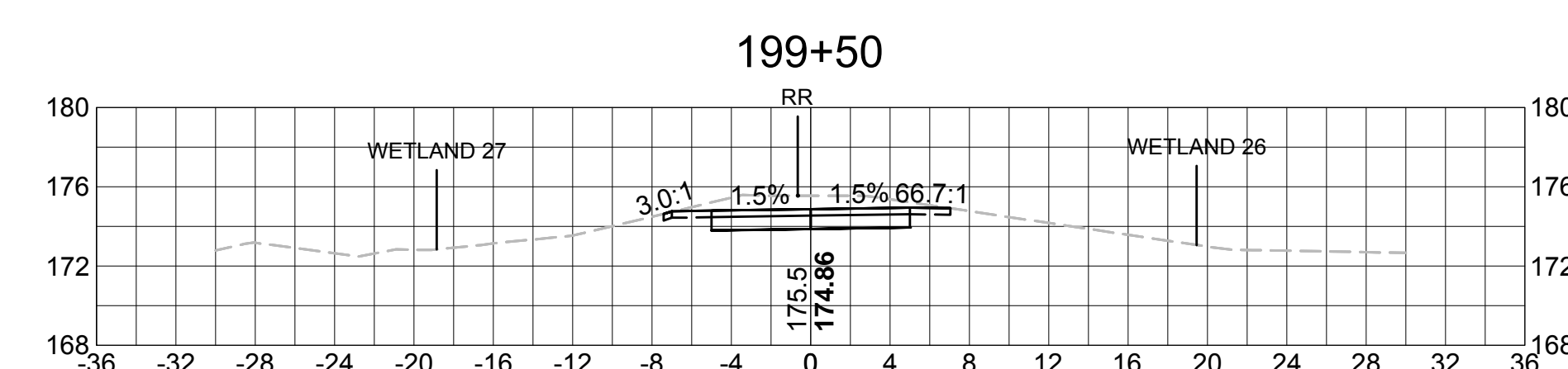
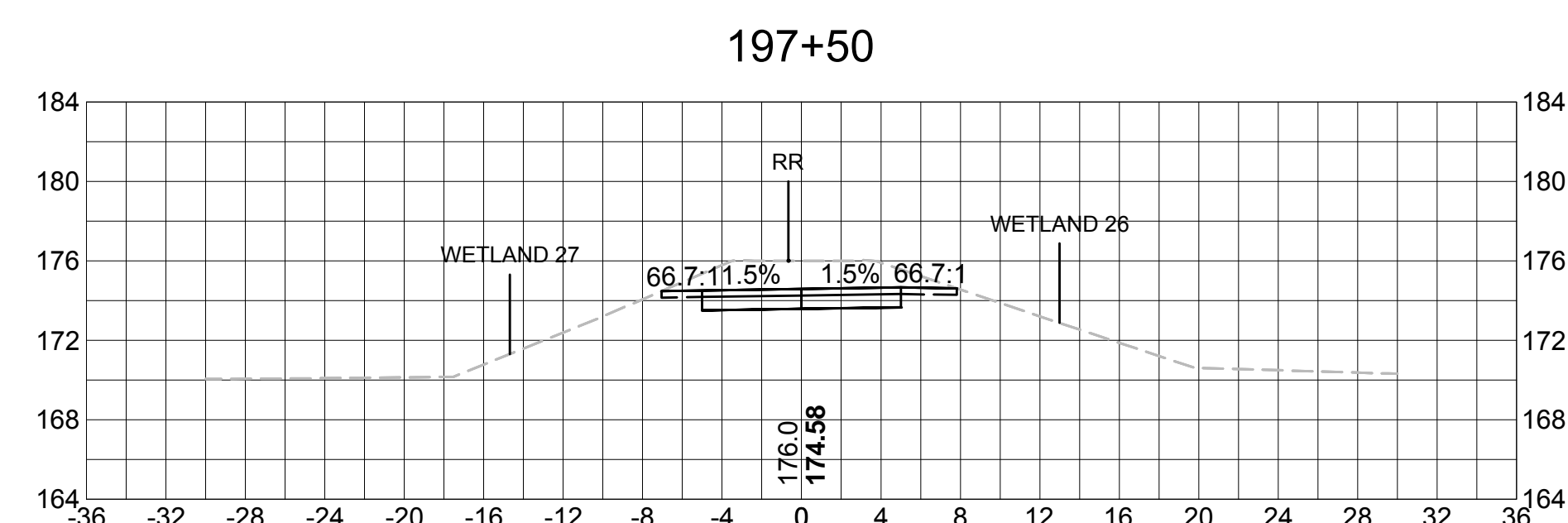
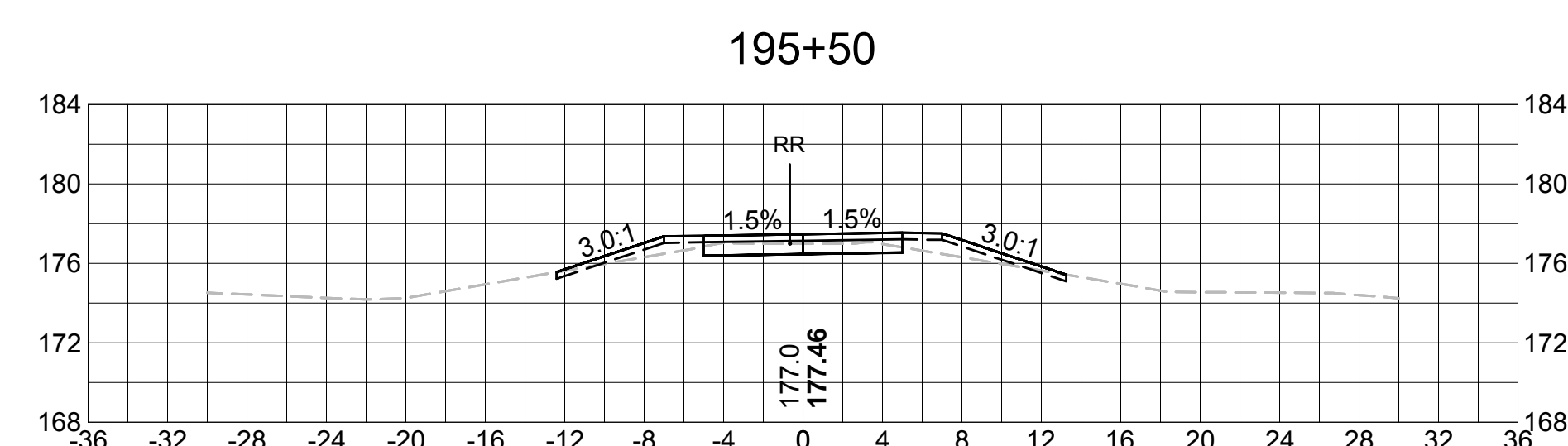
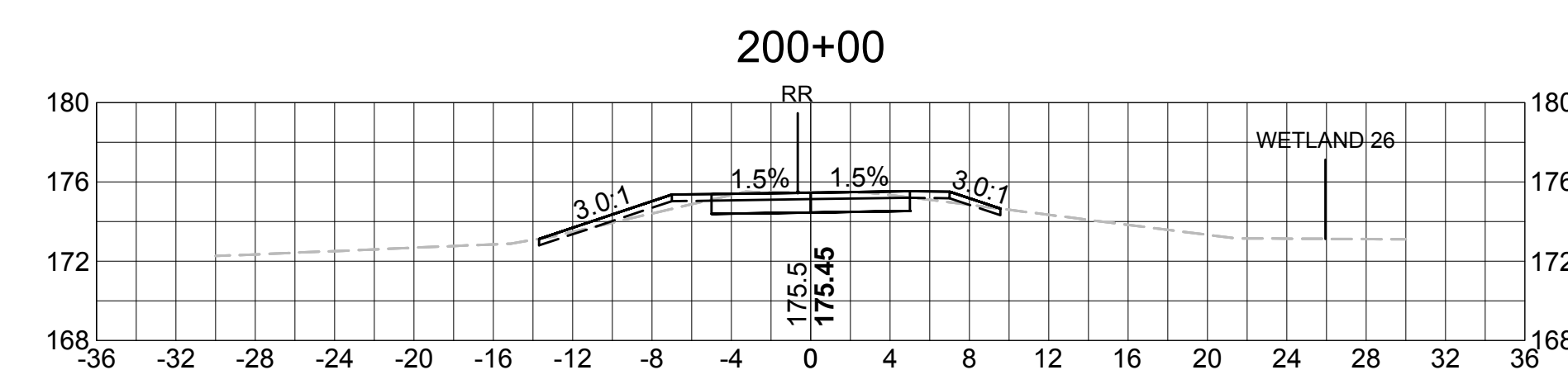
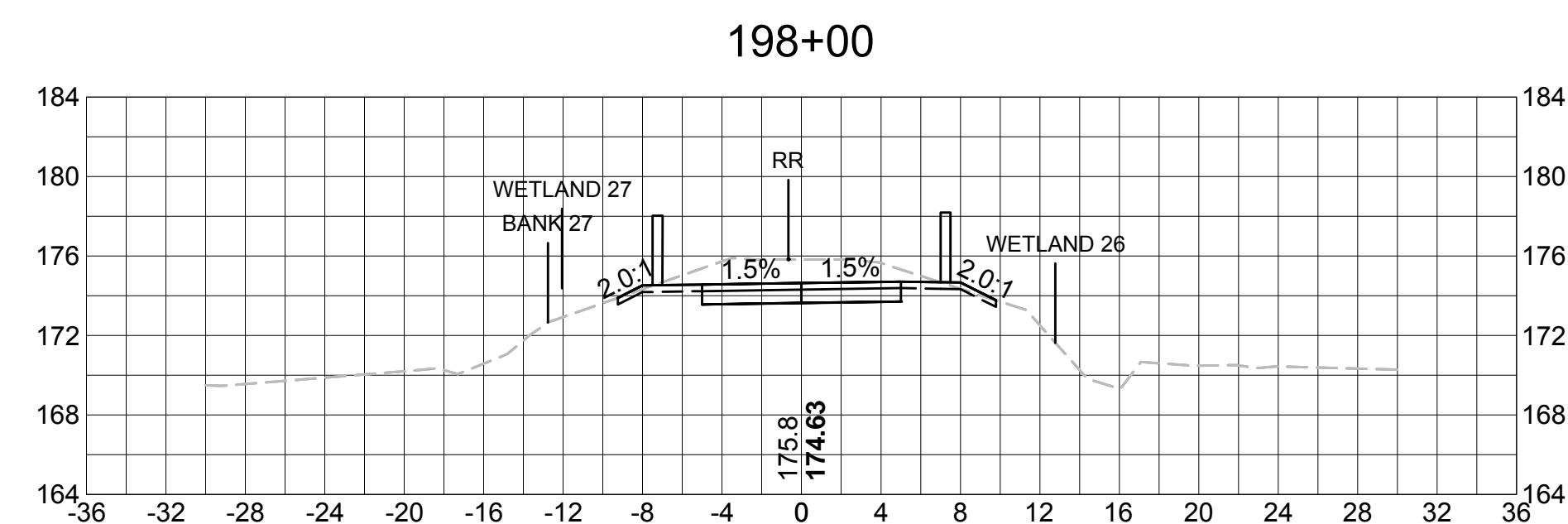
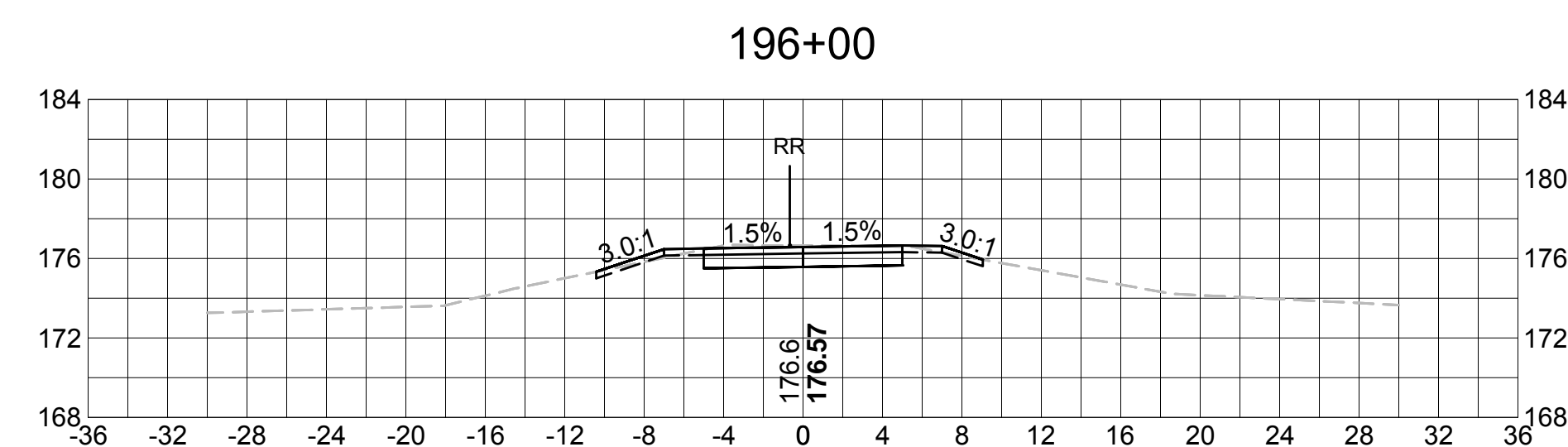
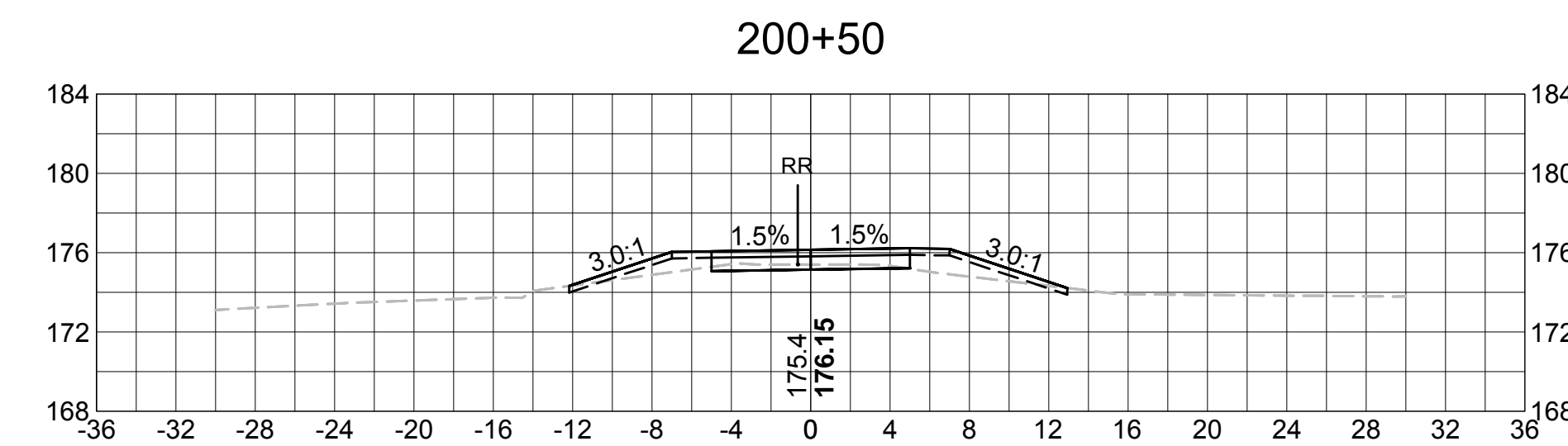
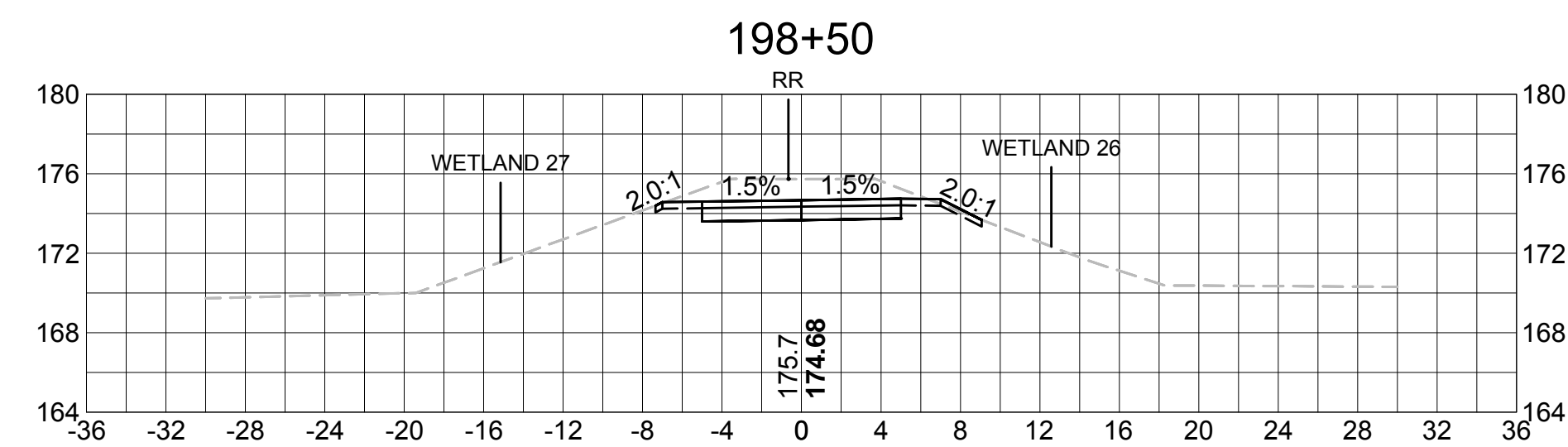
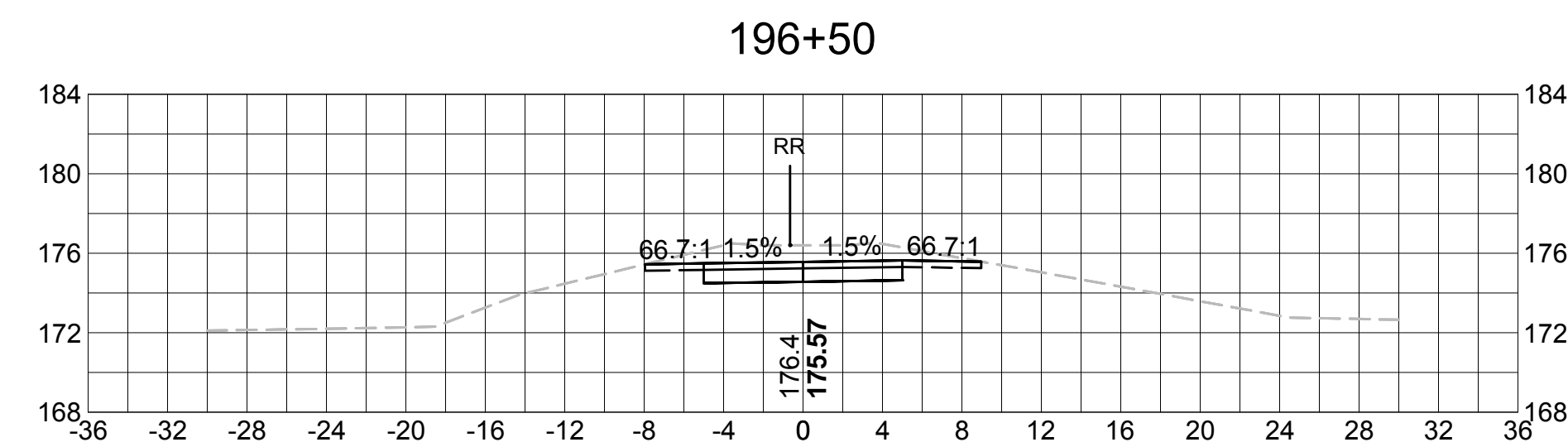
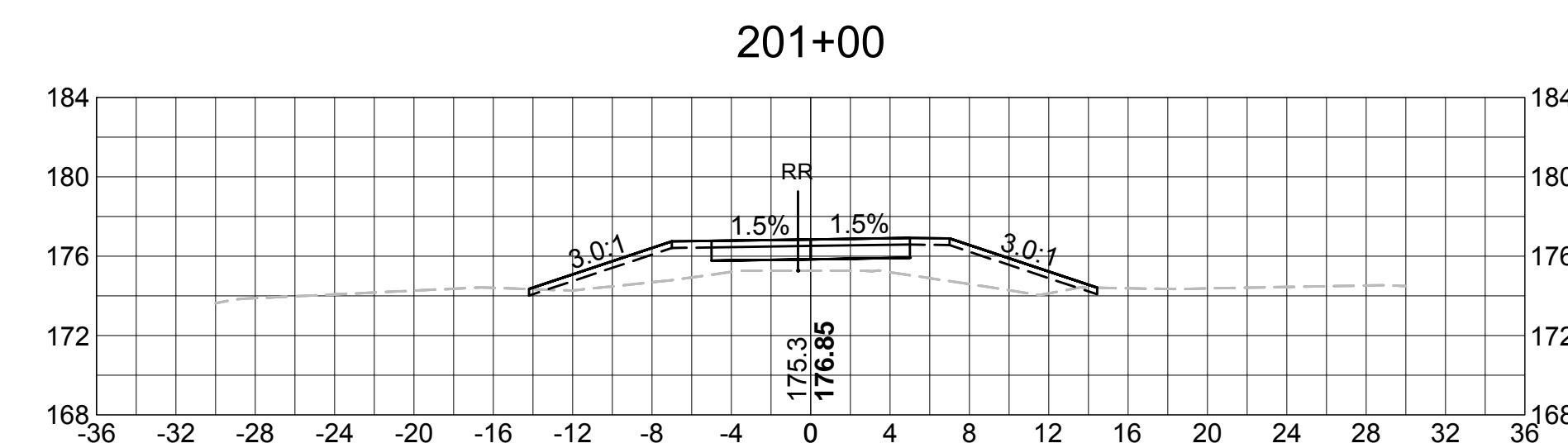
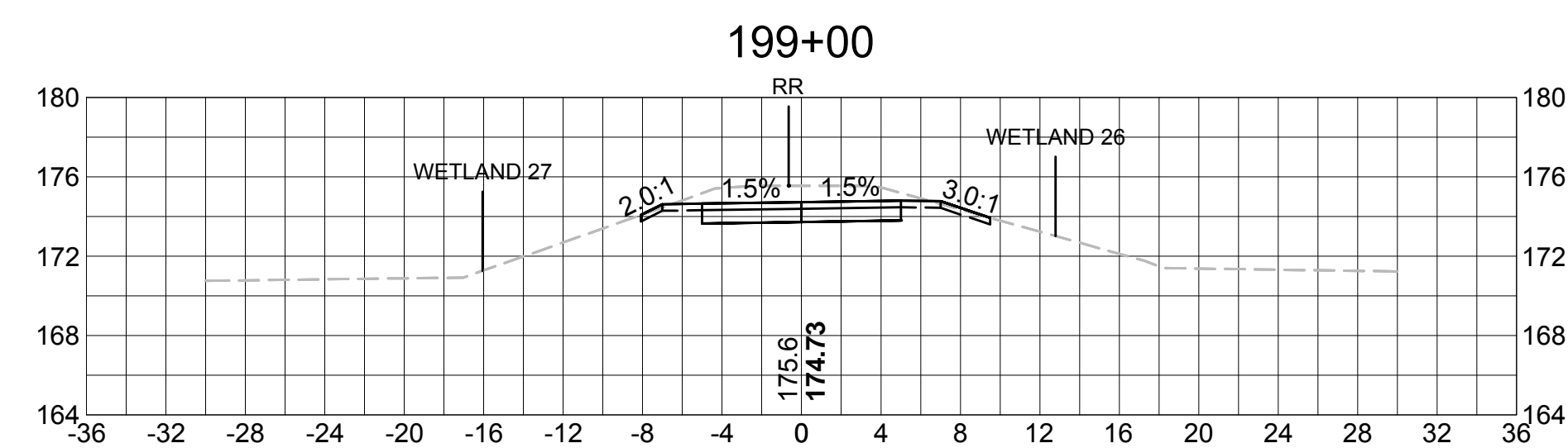
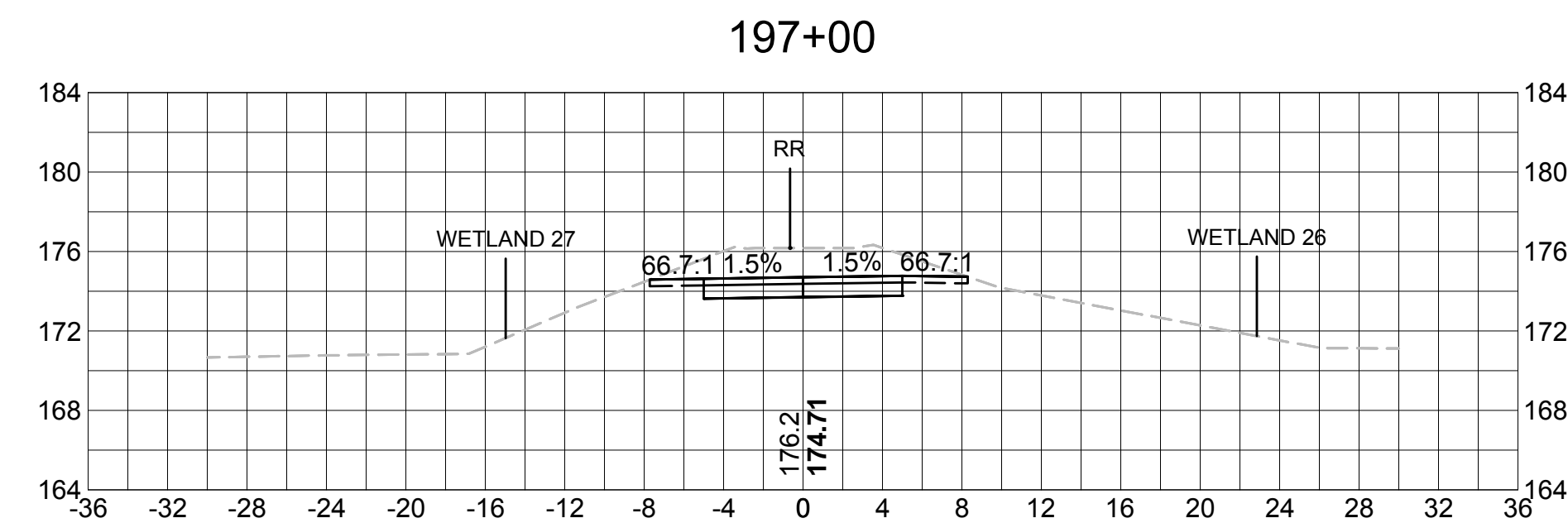
CROSS SECTIONS



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	98	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

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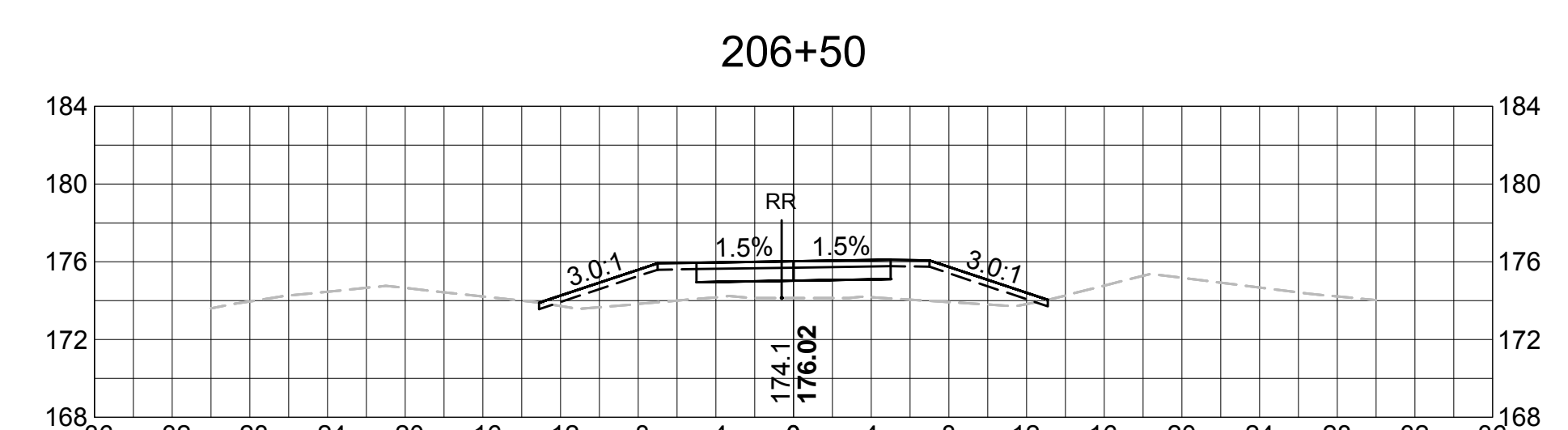
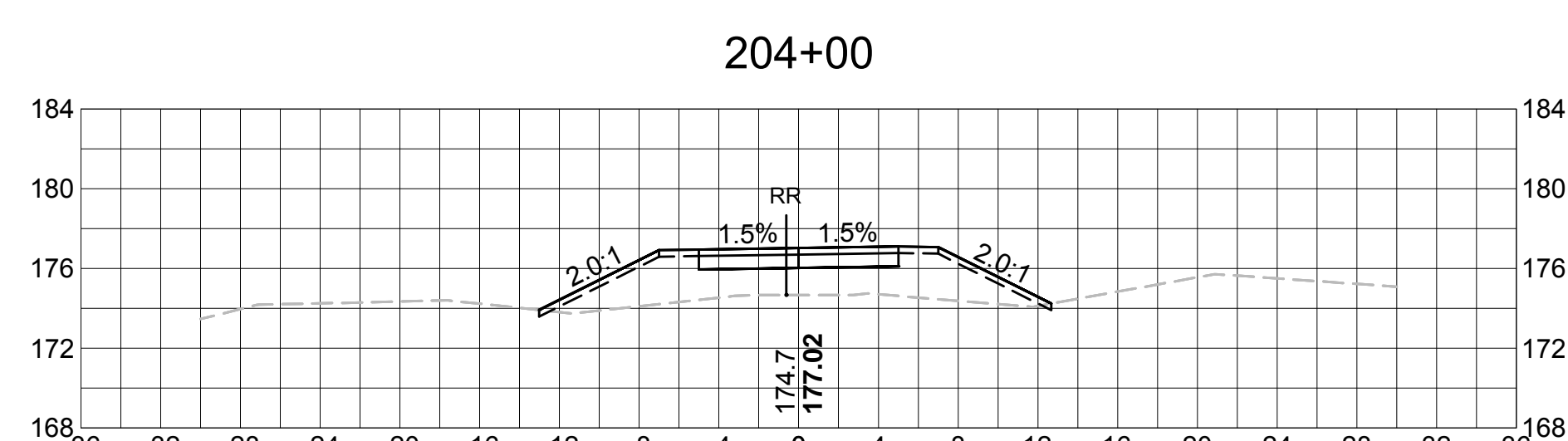
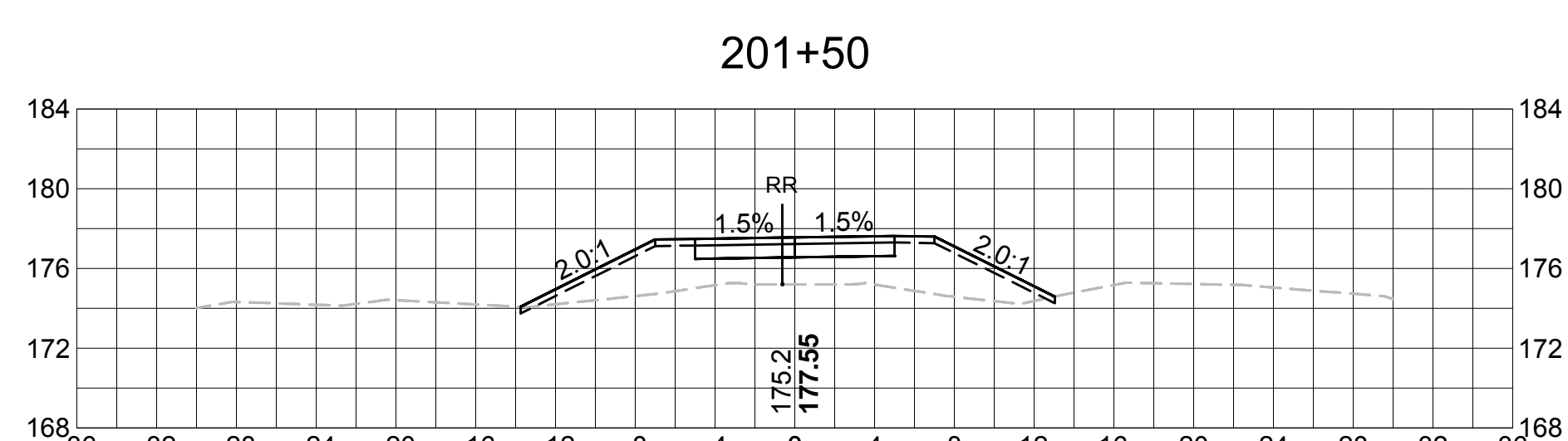
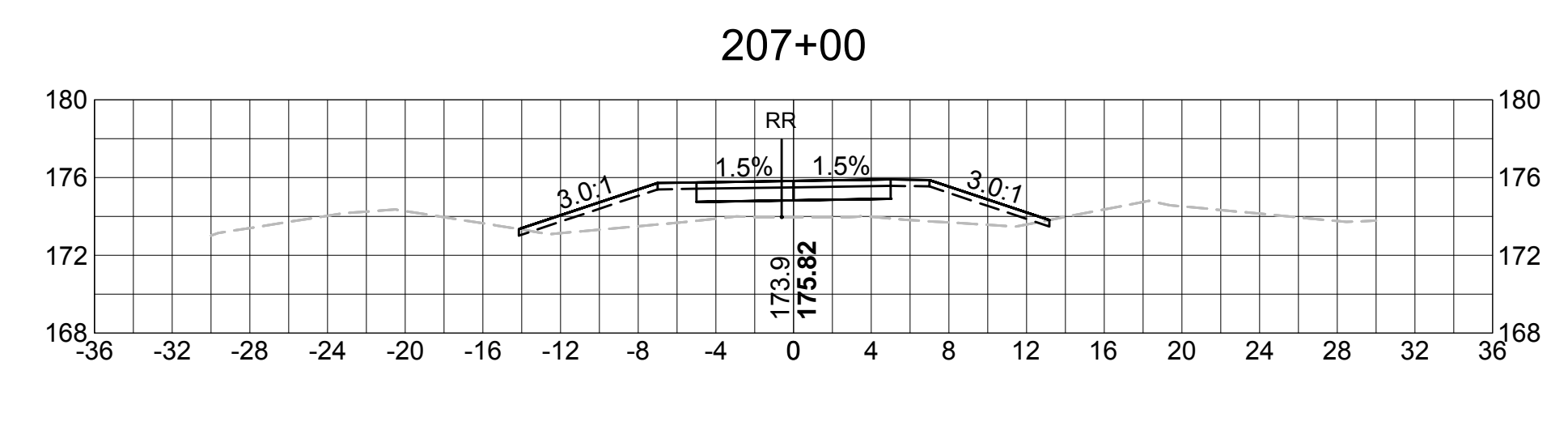
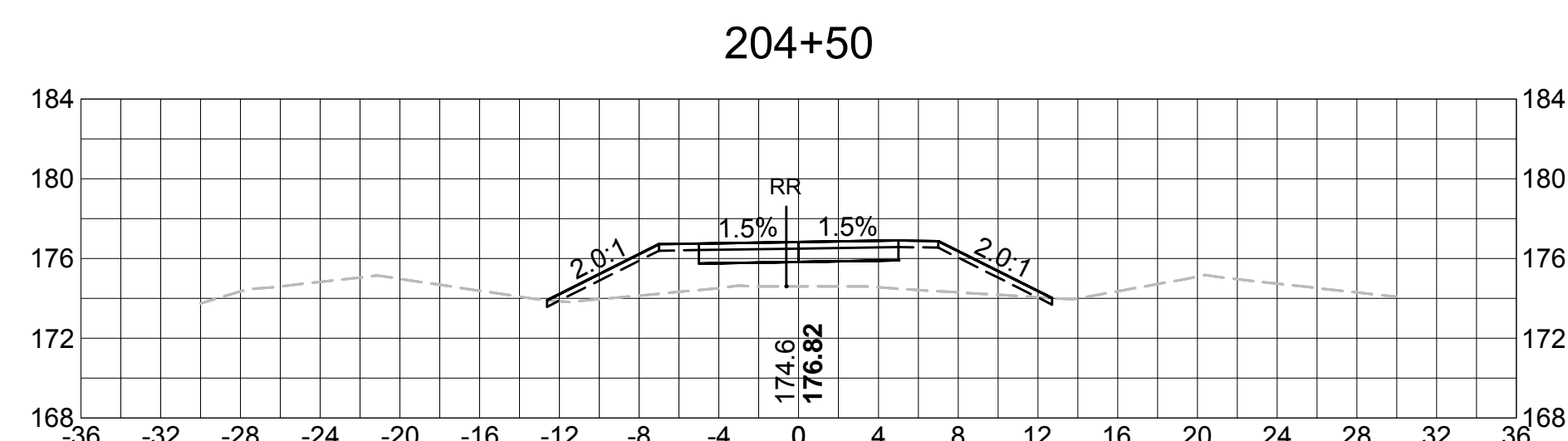
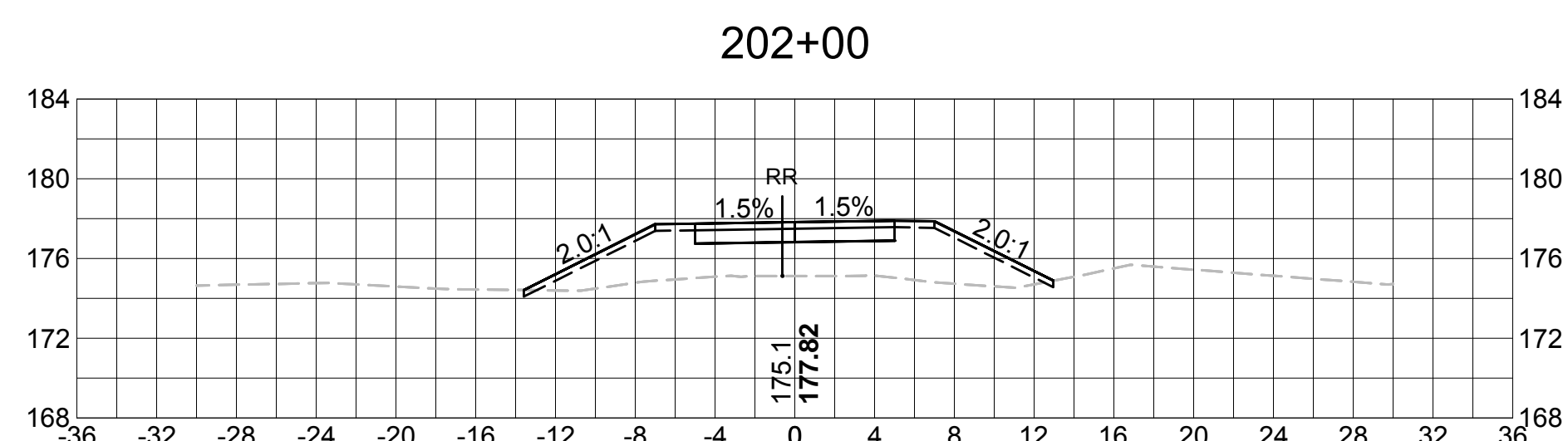
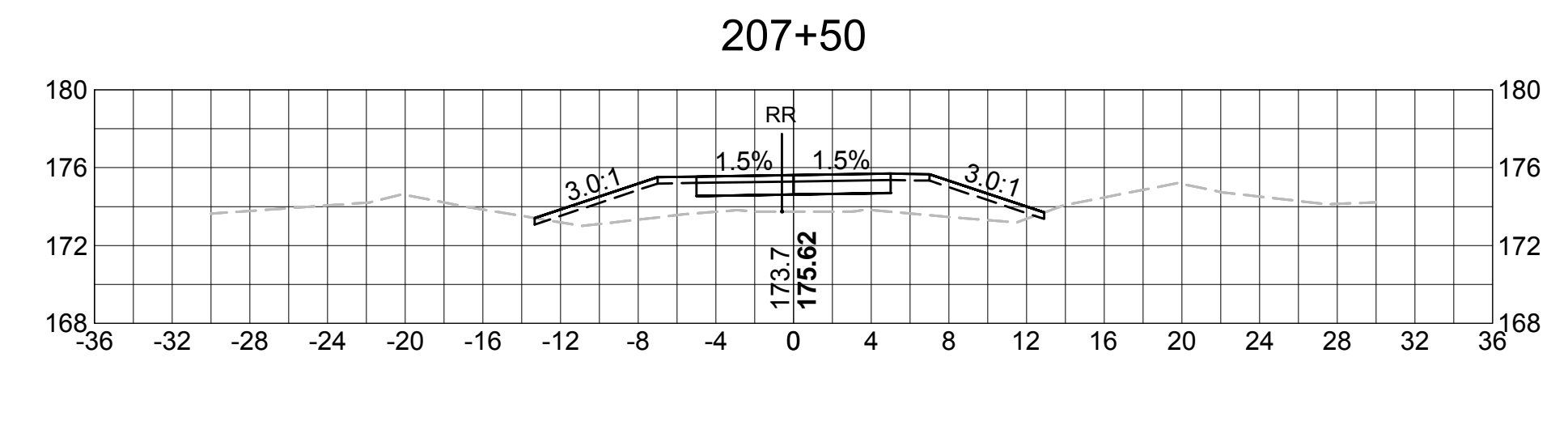
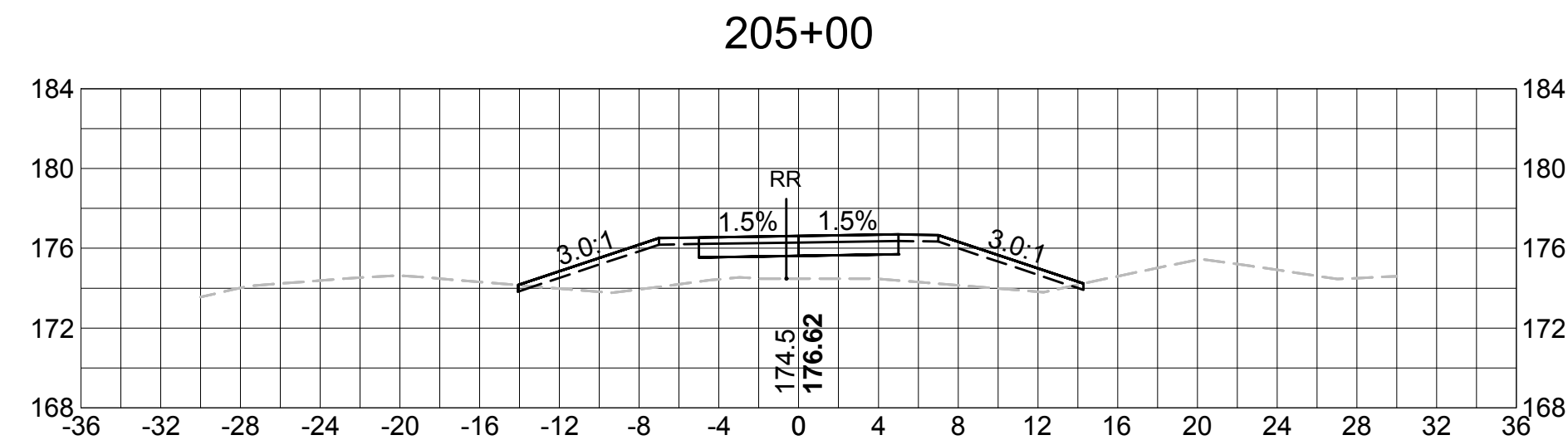
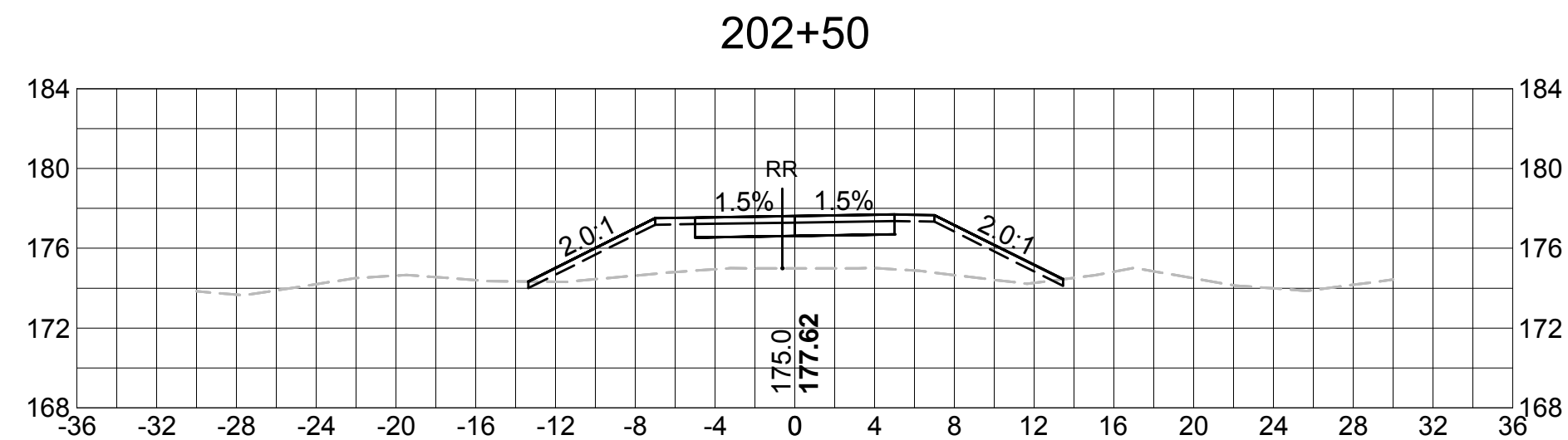
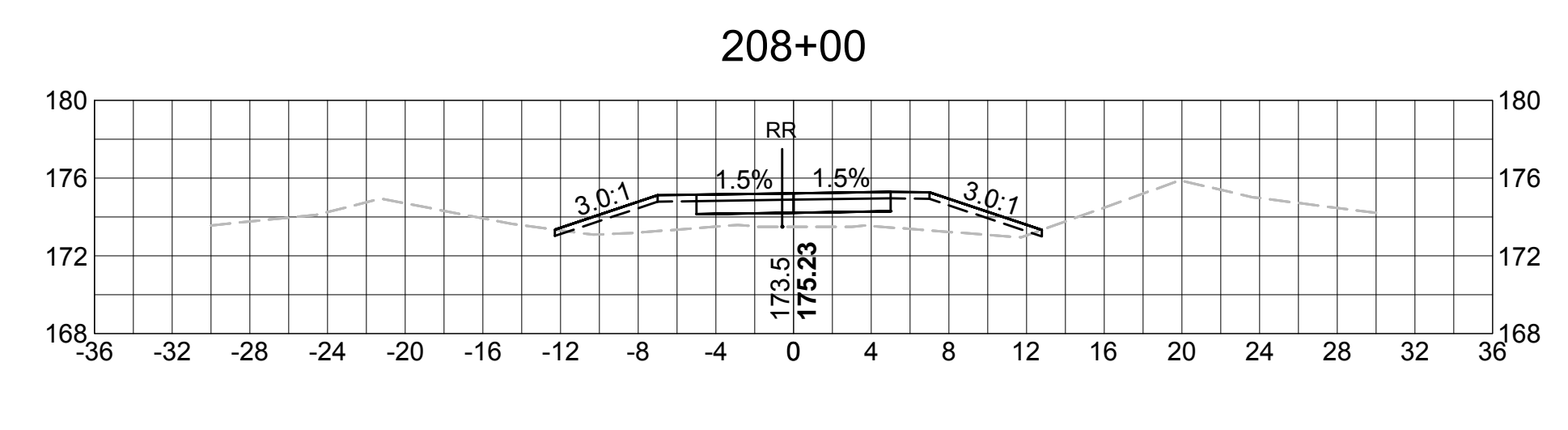
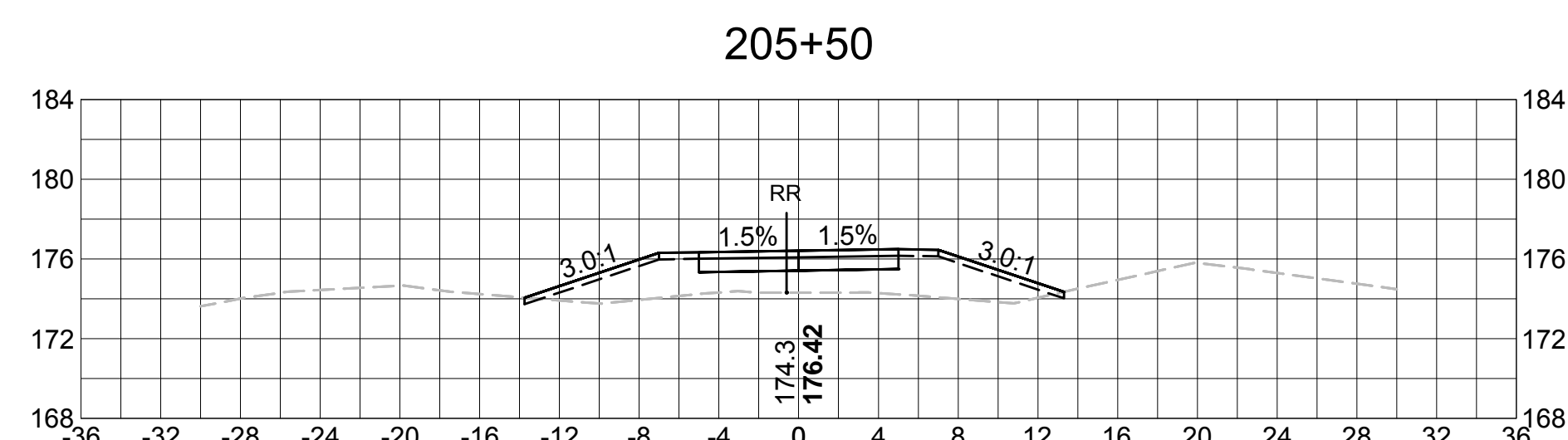
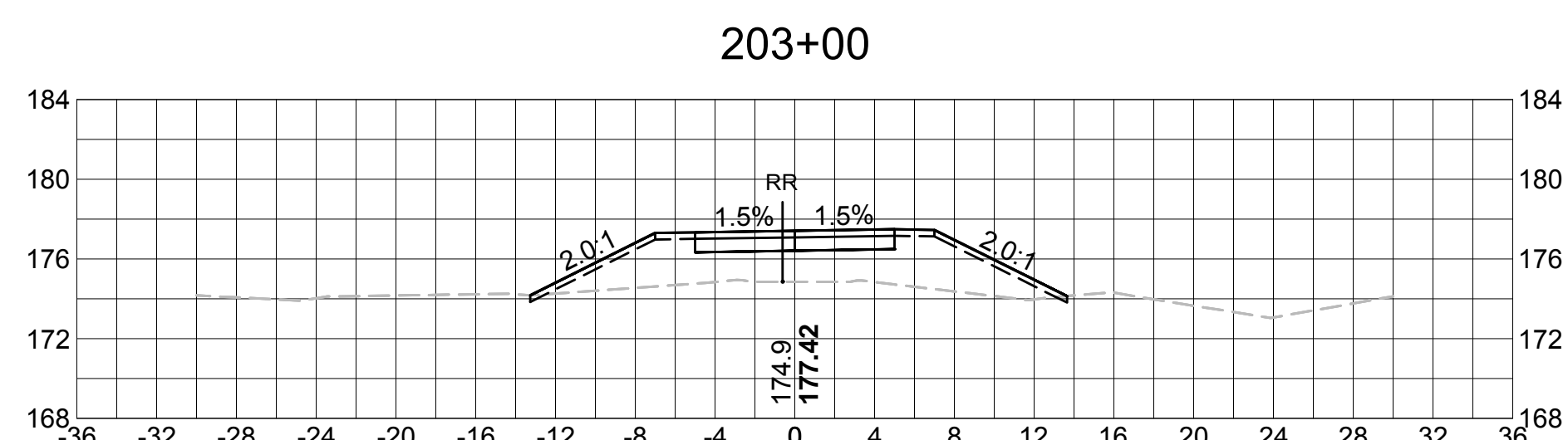
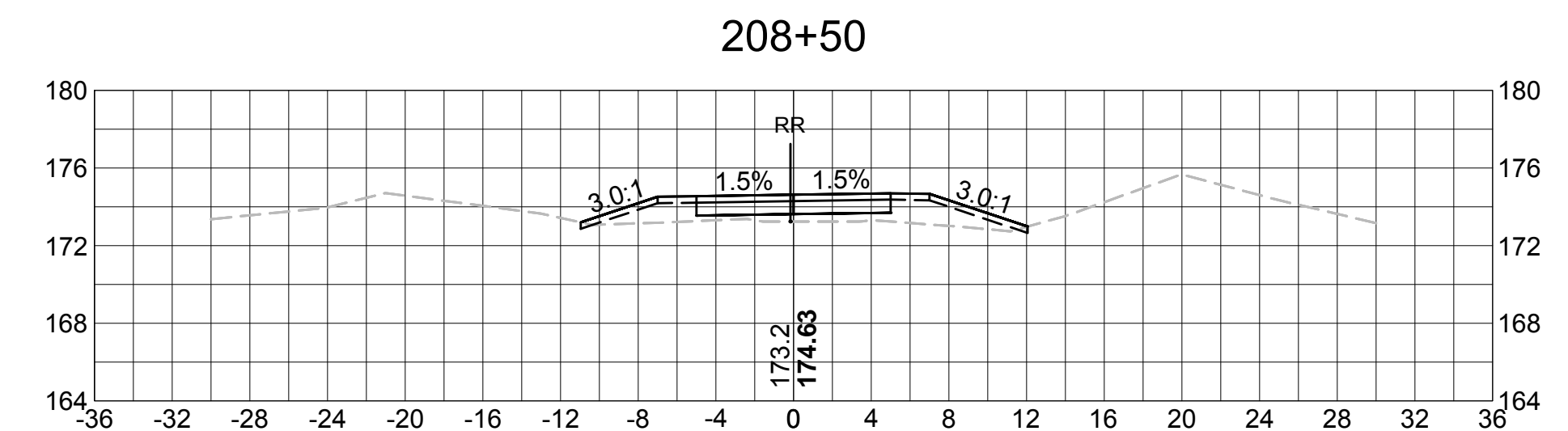
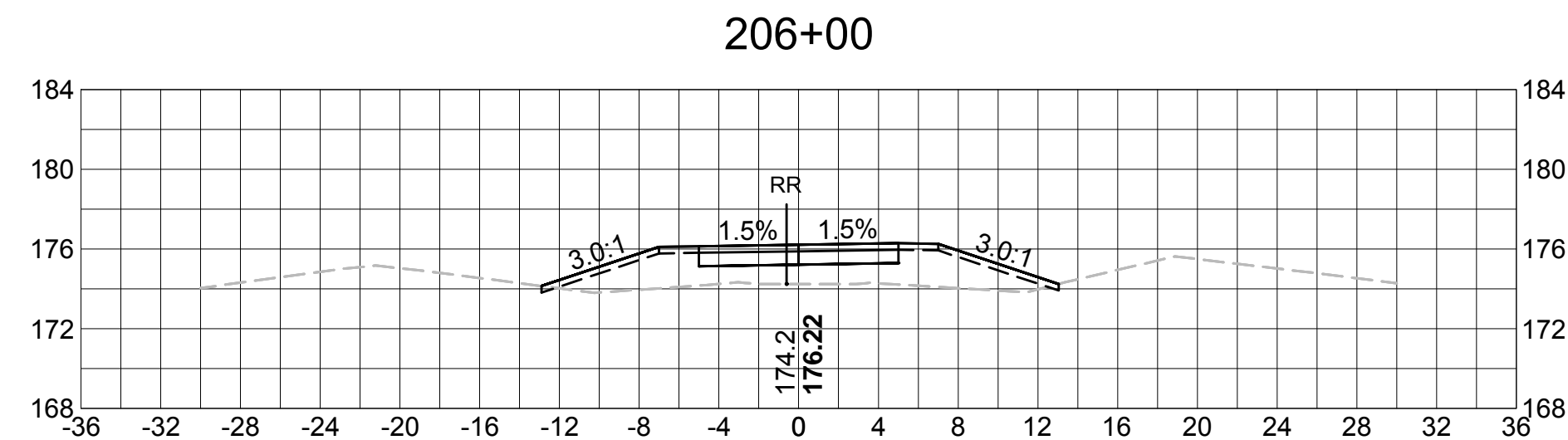
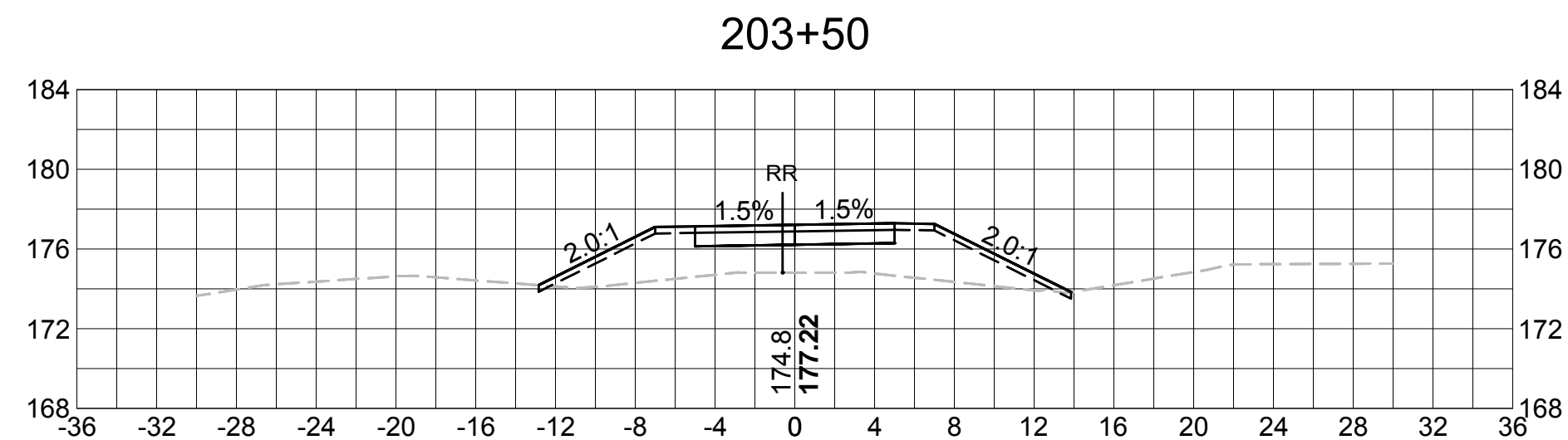


SUDBURY
BRUCE FREEMAN RAIL TRAIL

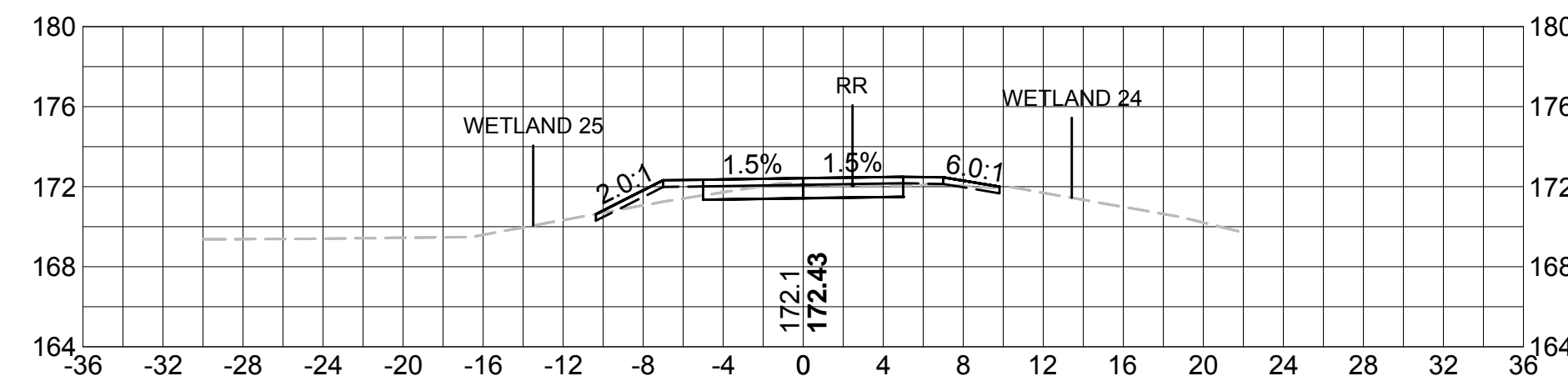
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	99	123

PROJECT FILE NO. 608164

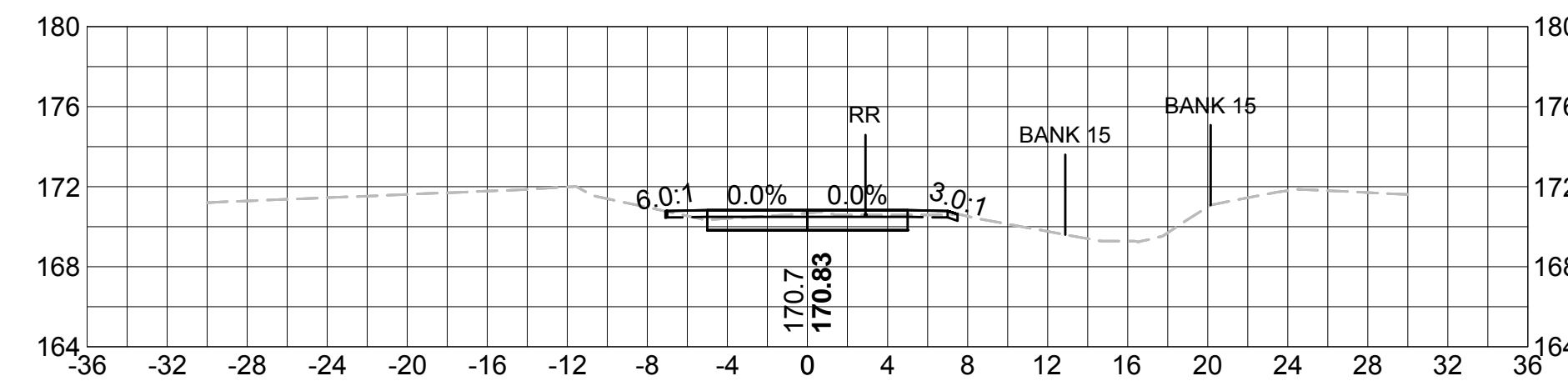
CROSS SECTIONS



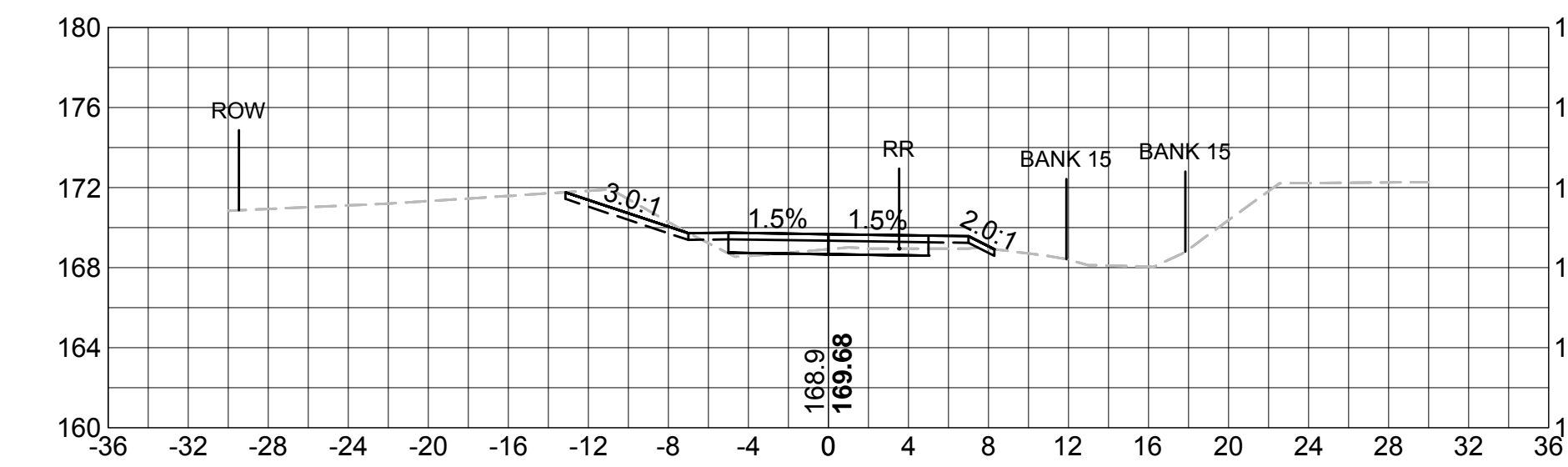
210+50



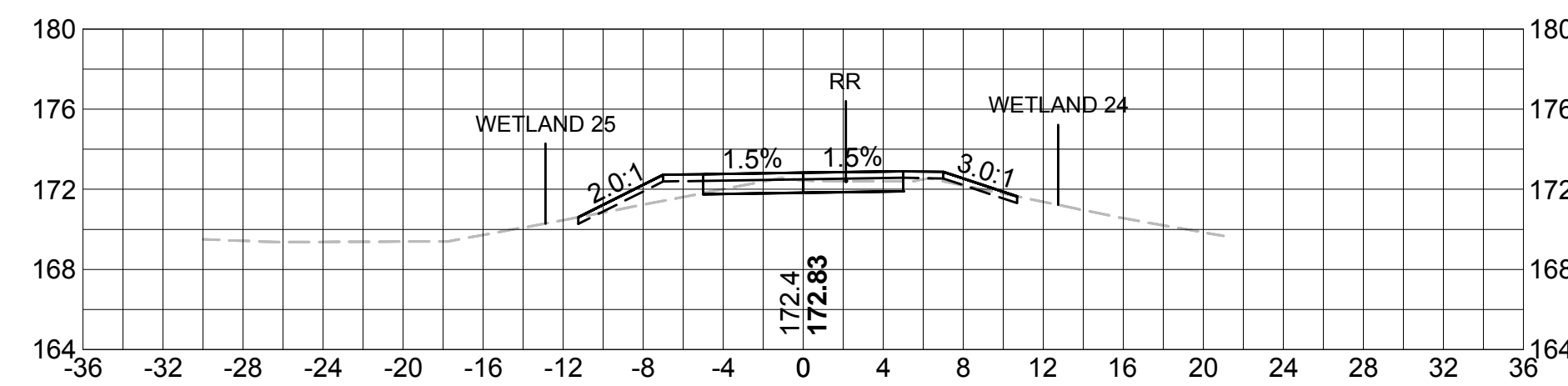
212+50



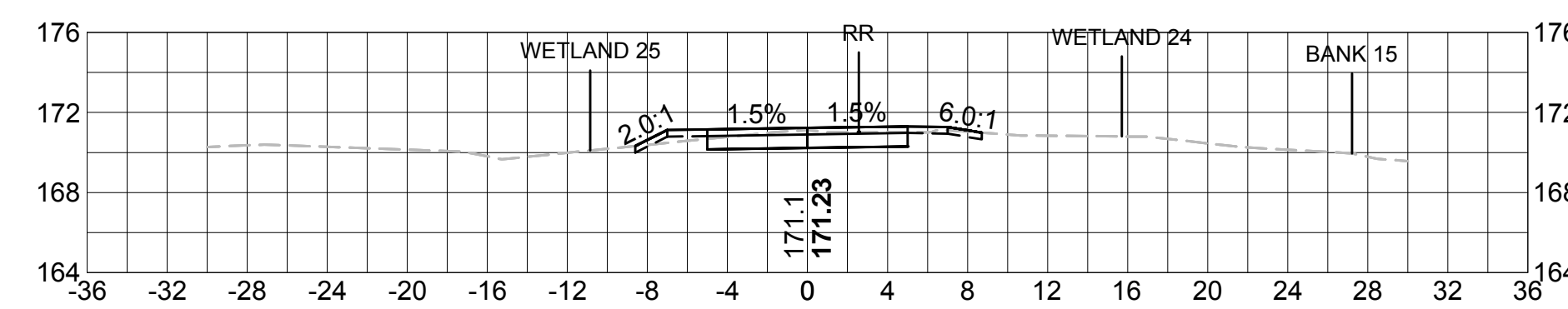
214+50



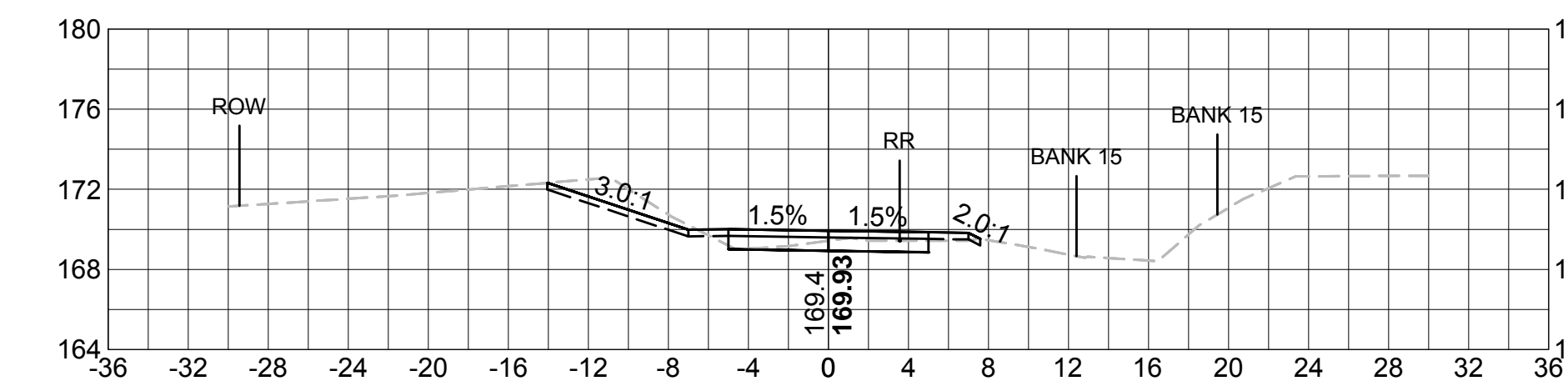
210+00



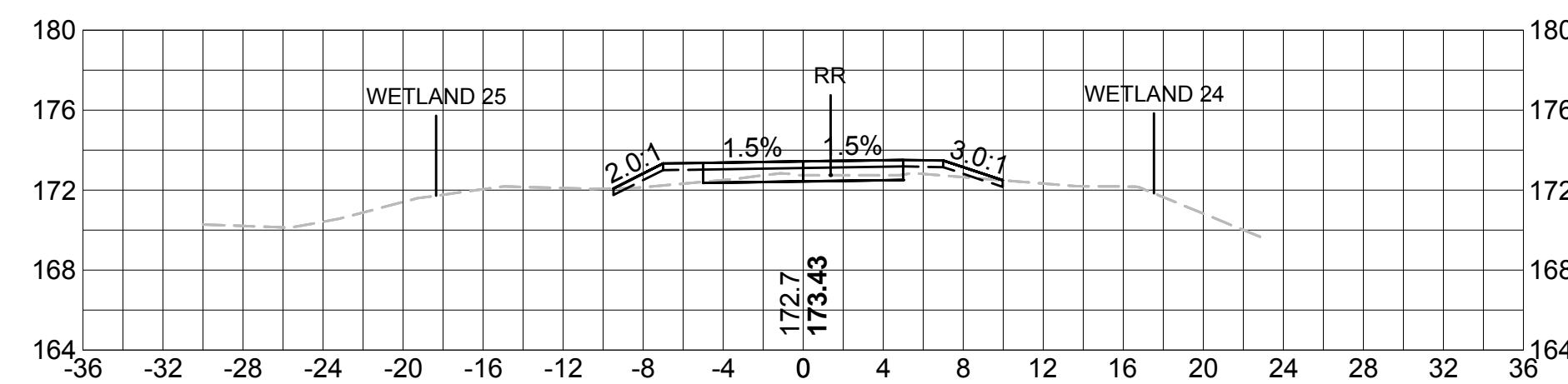
212+00



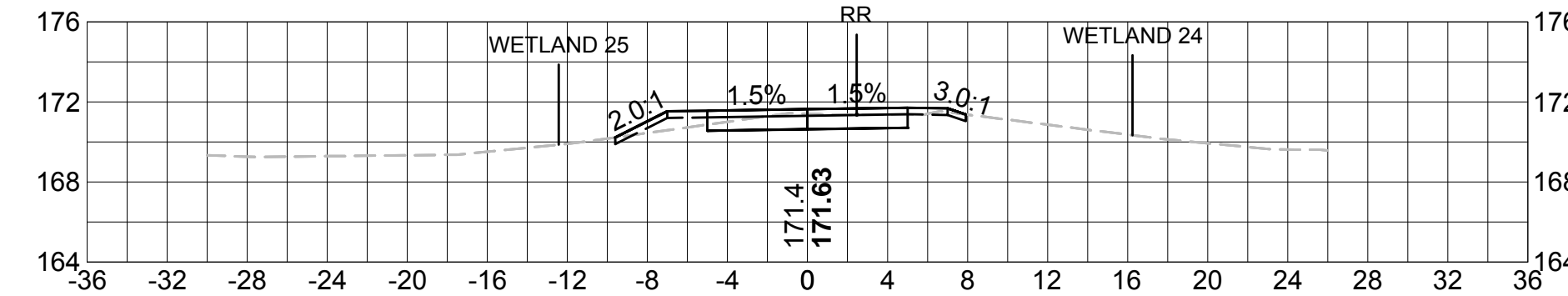
214+00



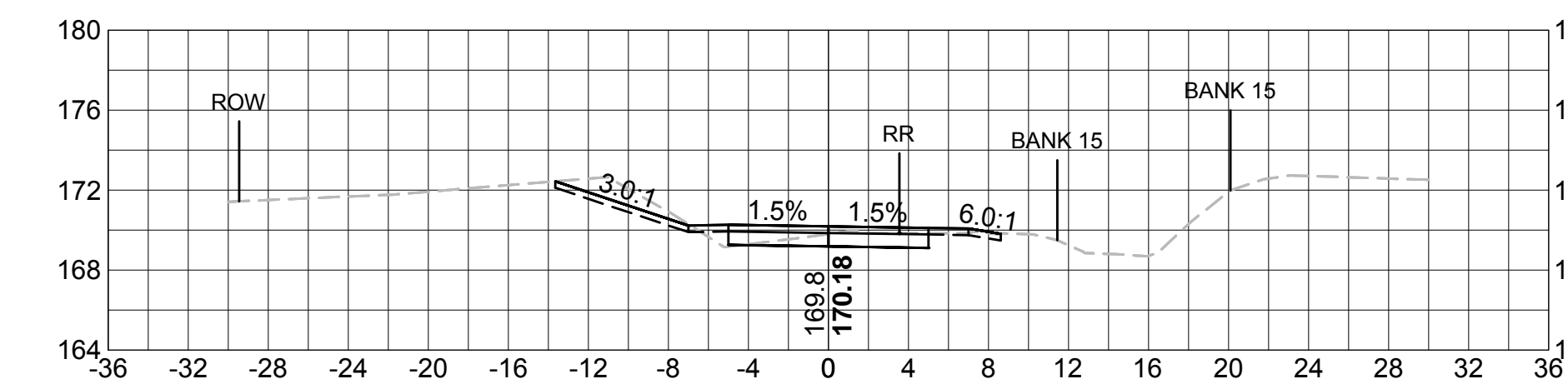
209+50



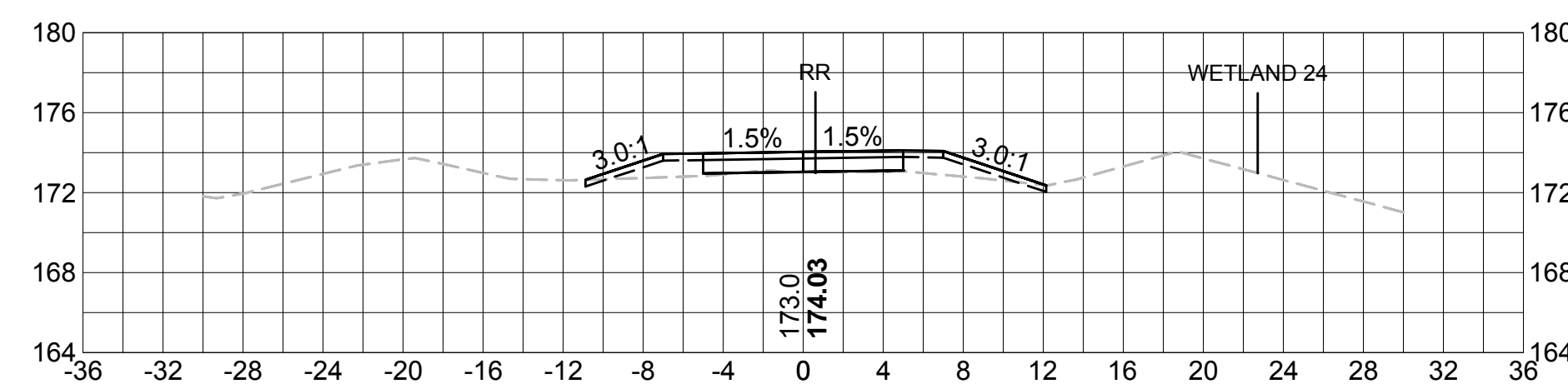
211+50



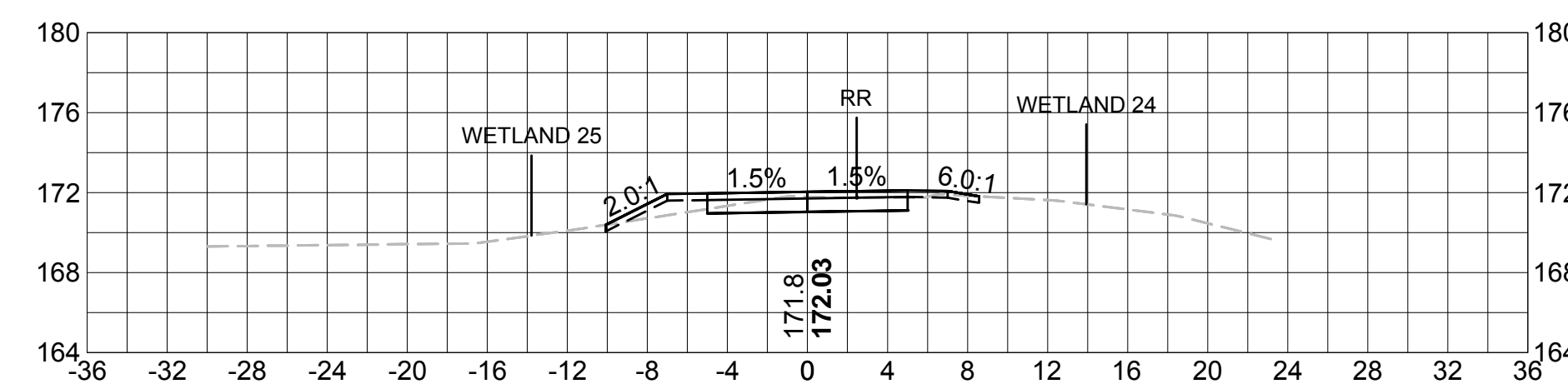
213+50



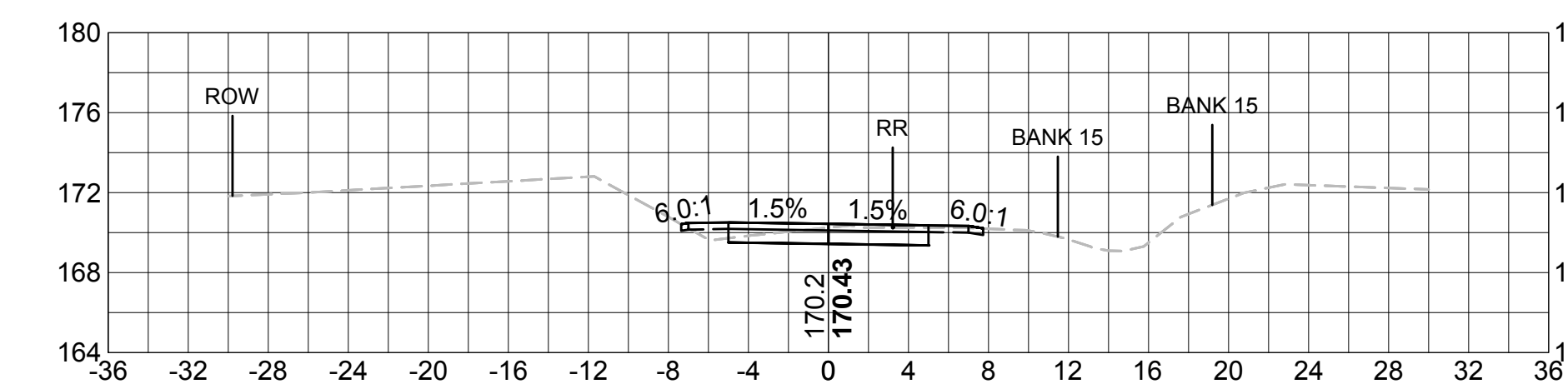
209+00



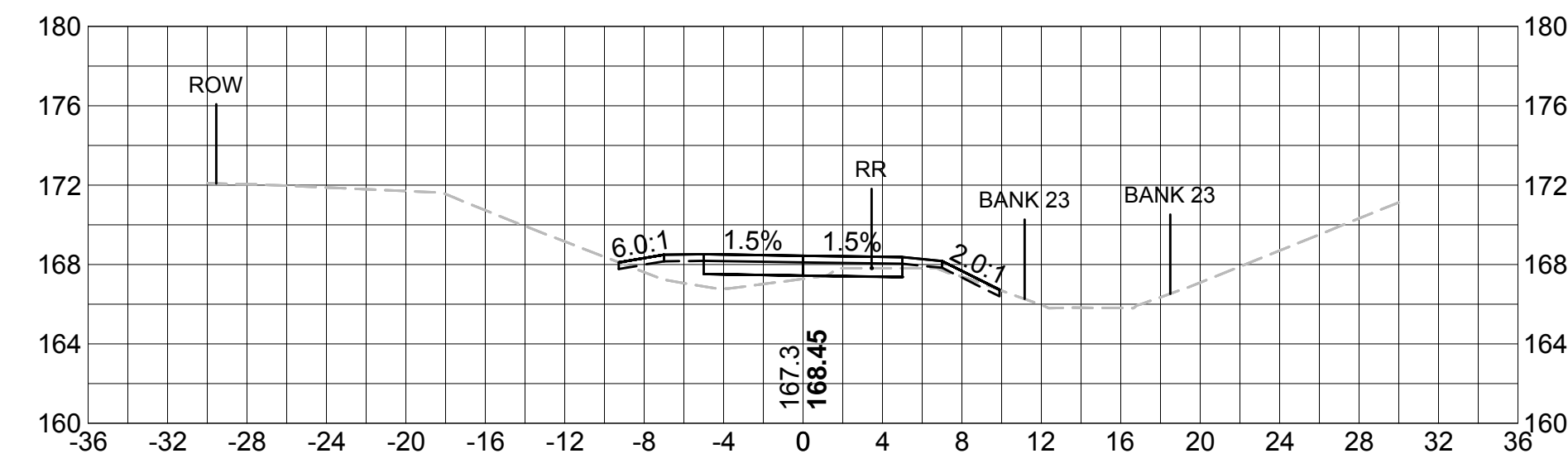
211+00



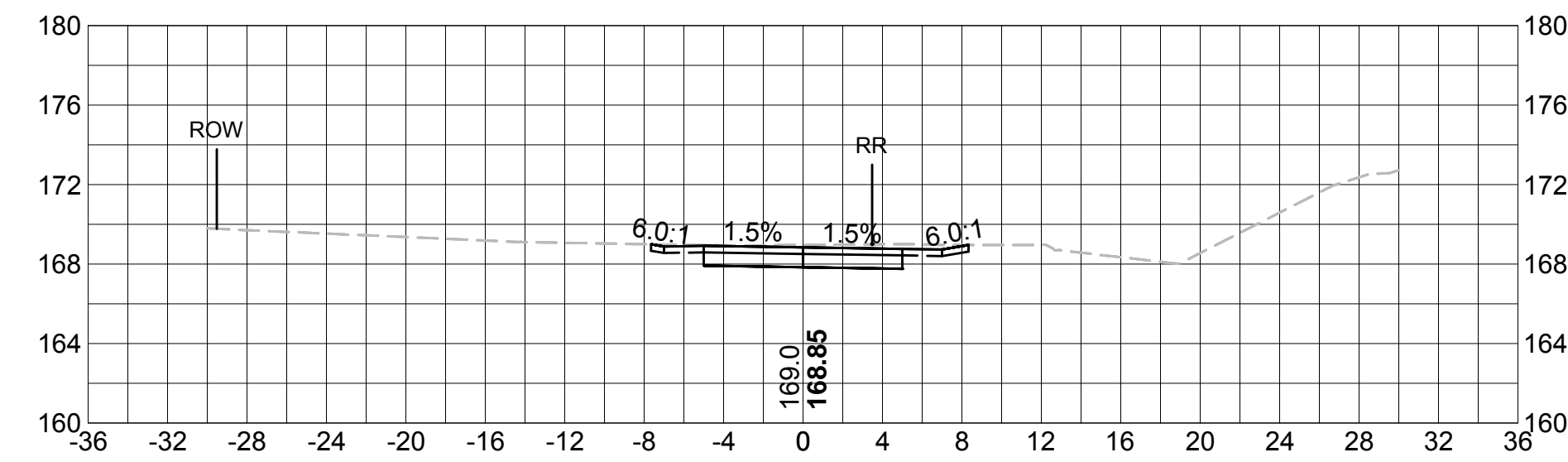
213+00



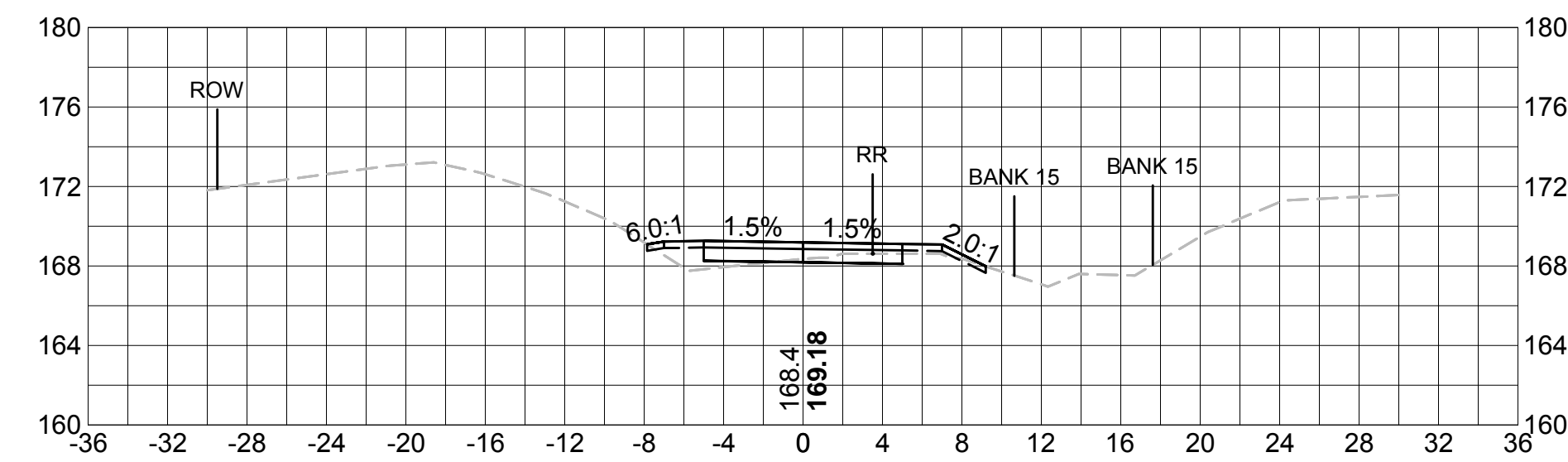
216+50



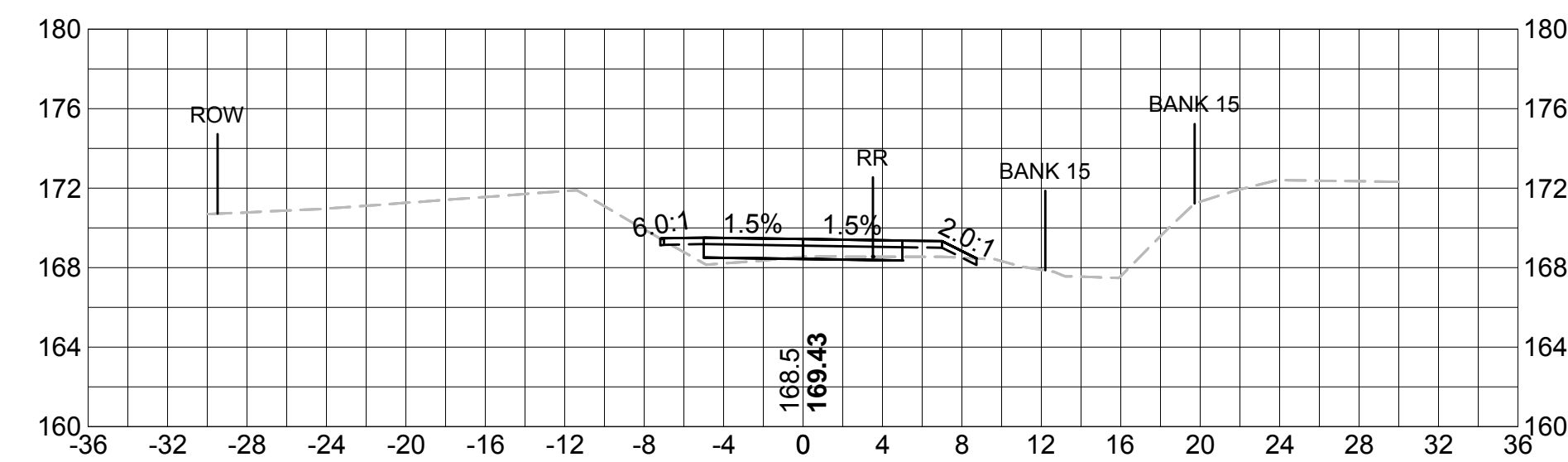
216+00



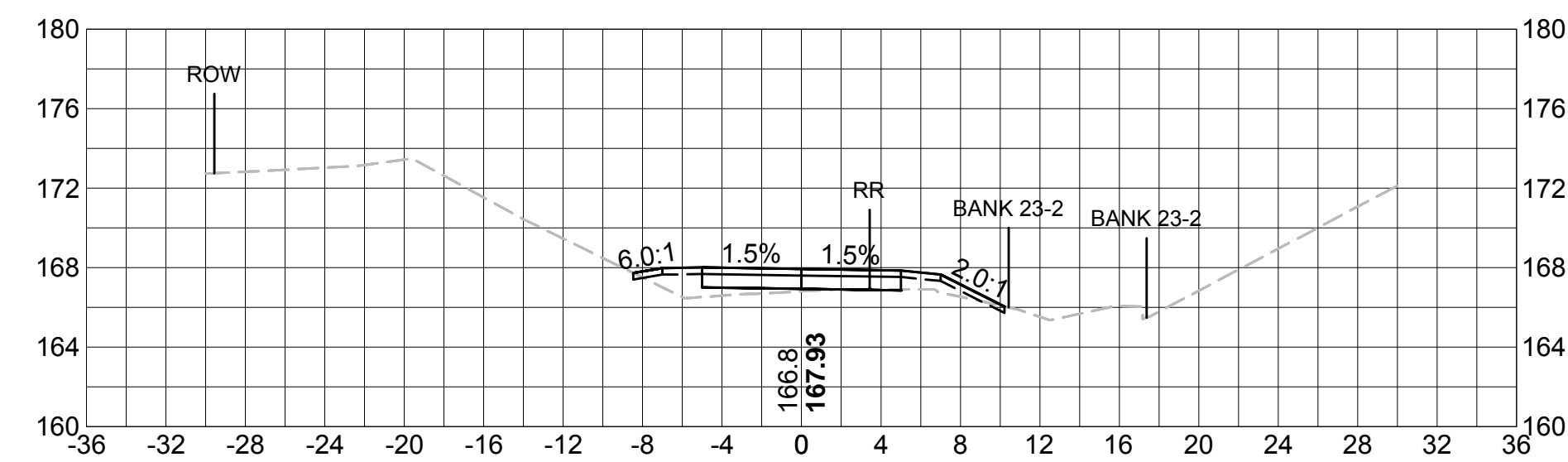
215+50



215+00



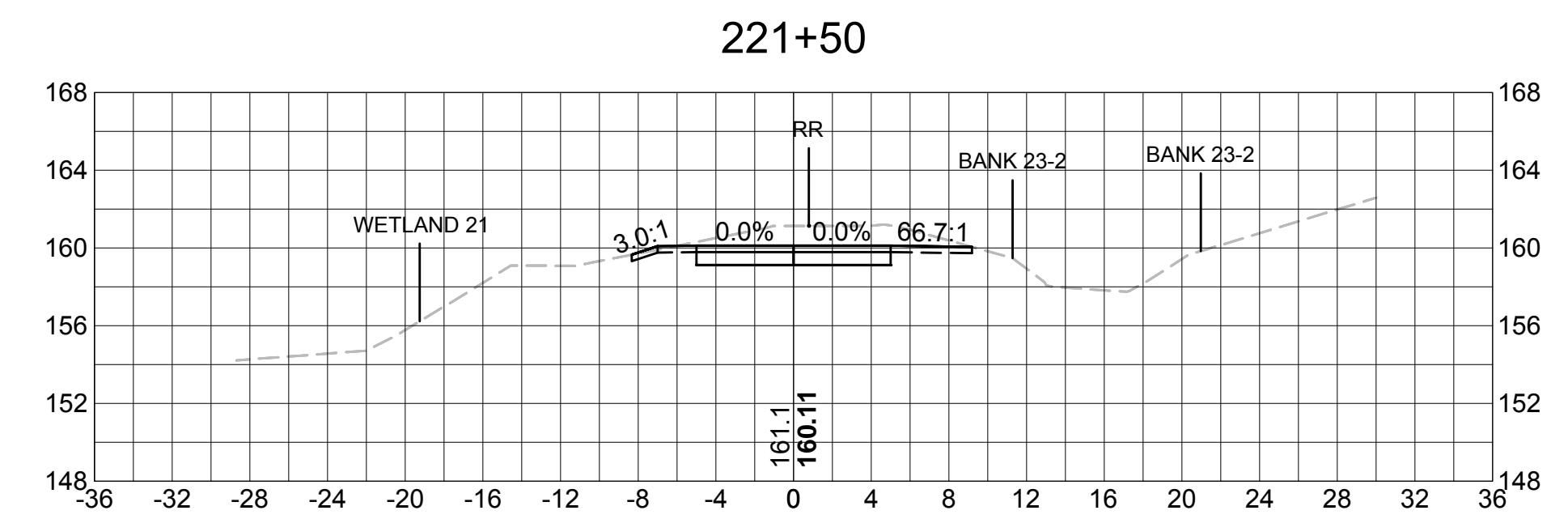
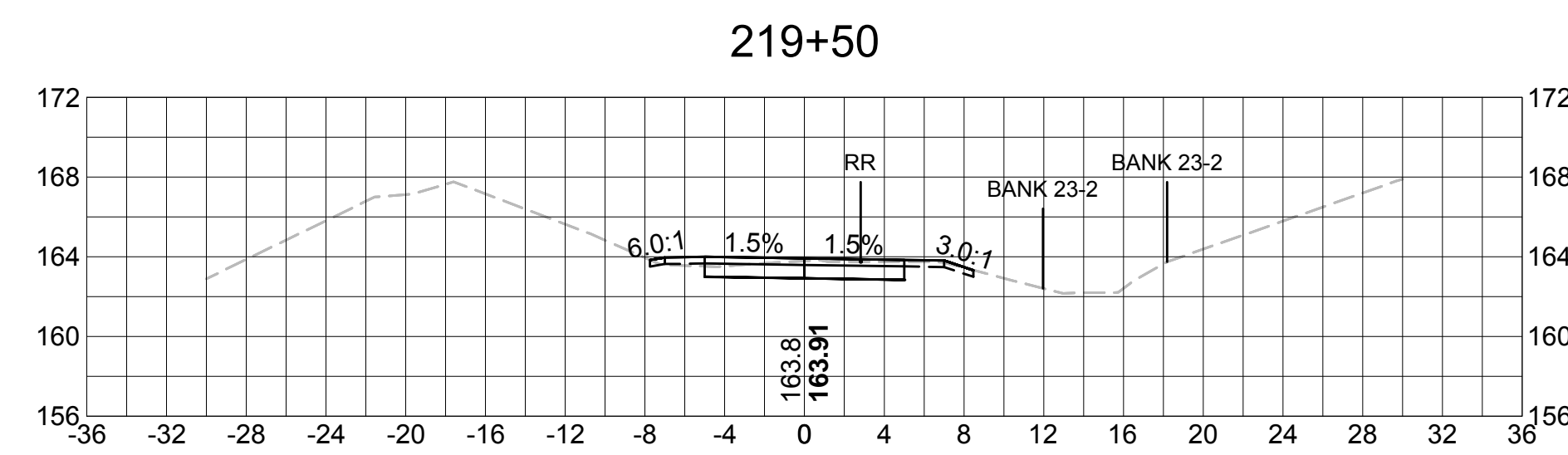
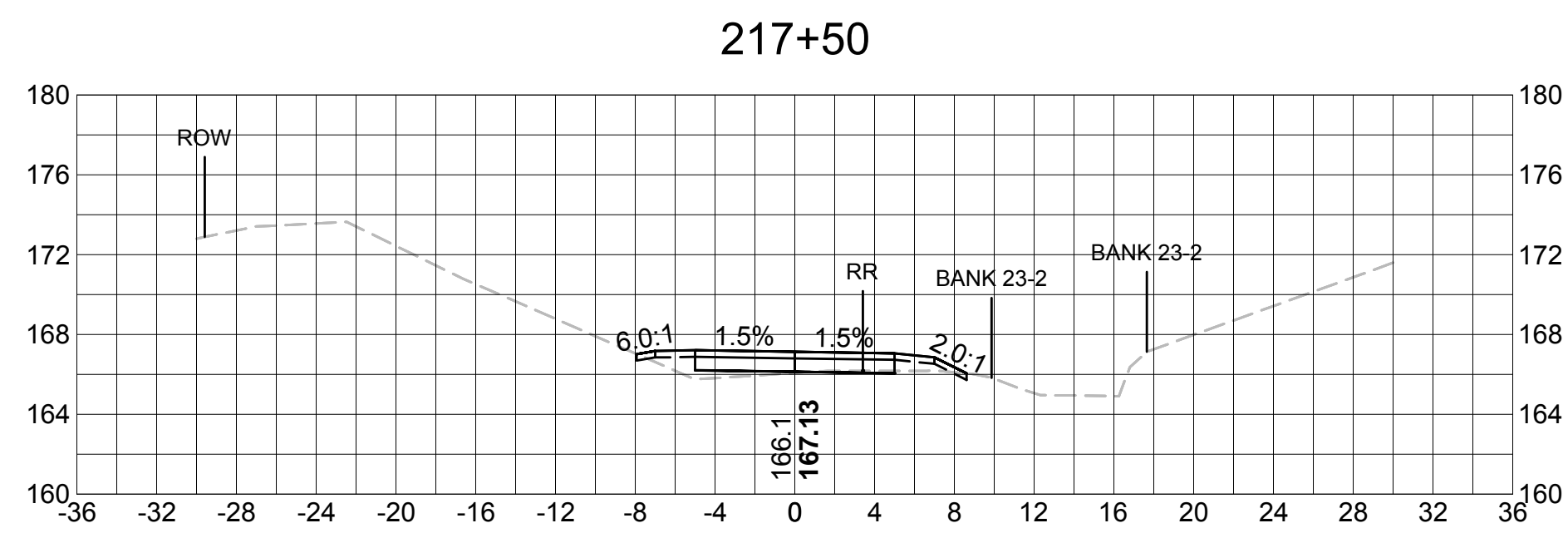
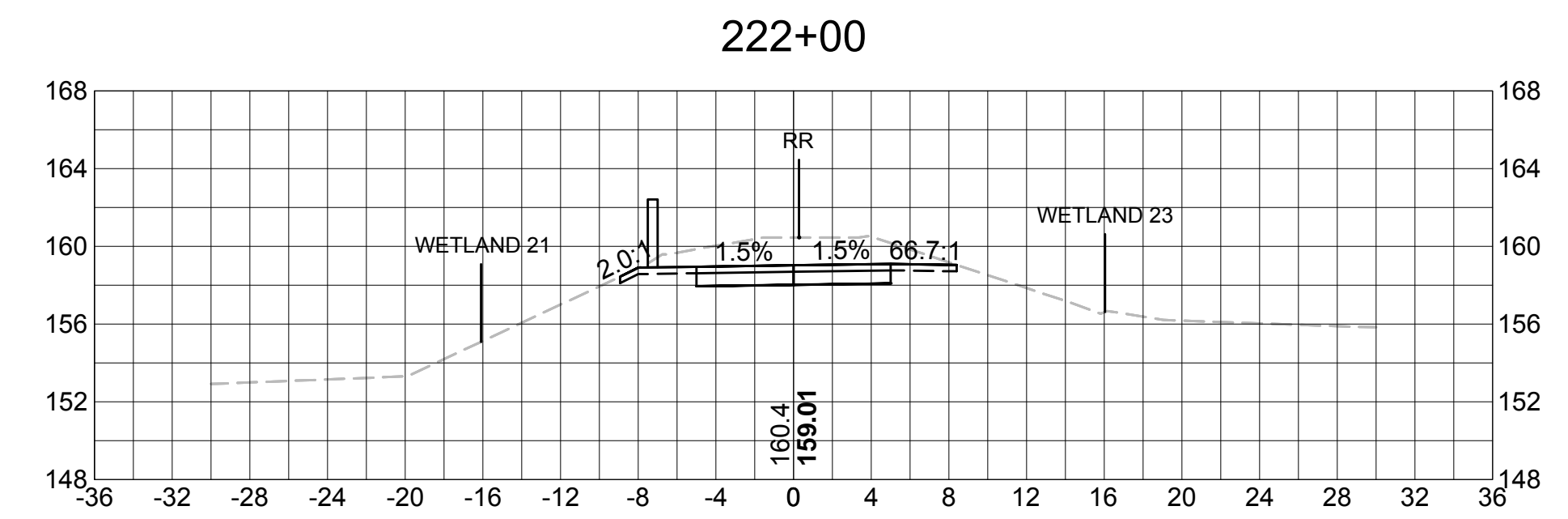
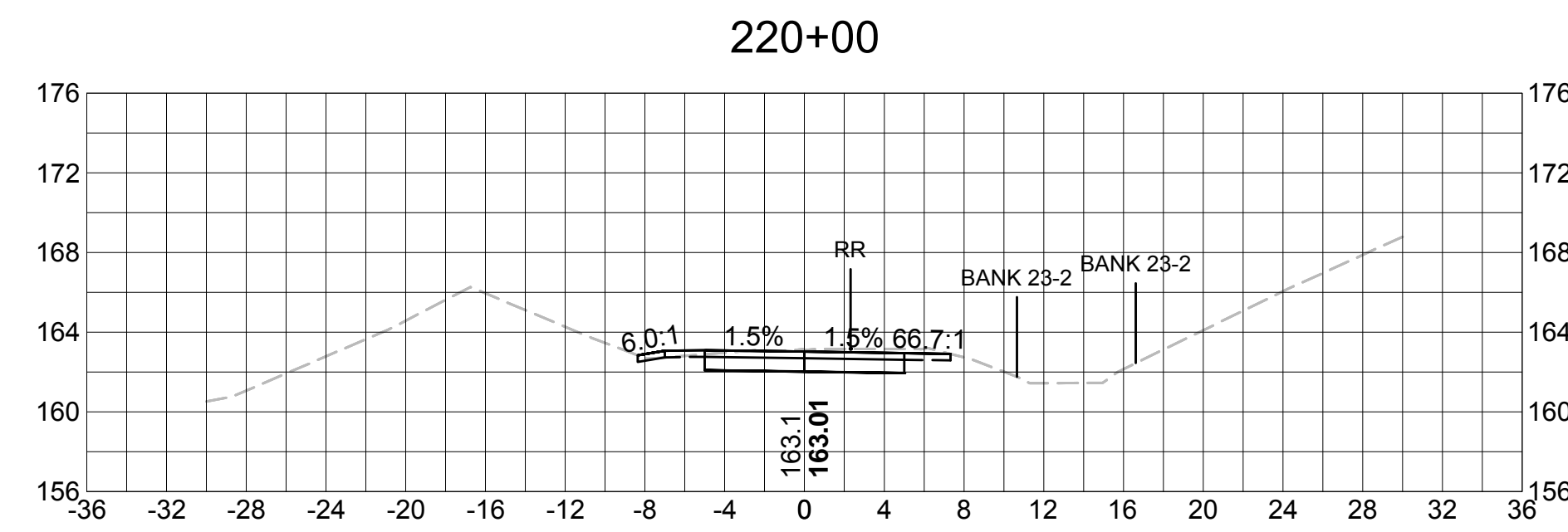
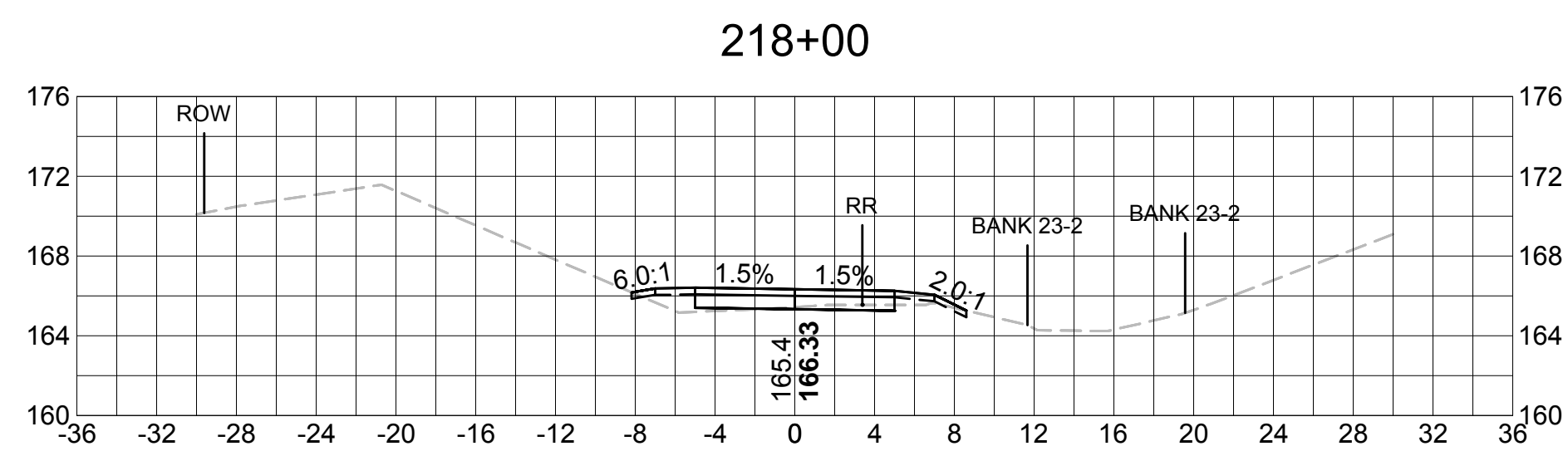
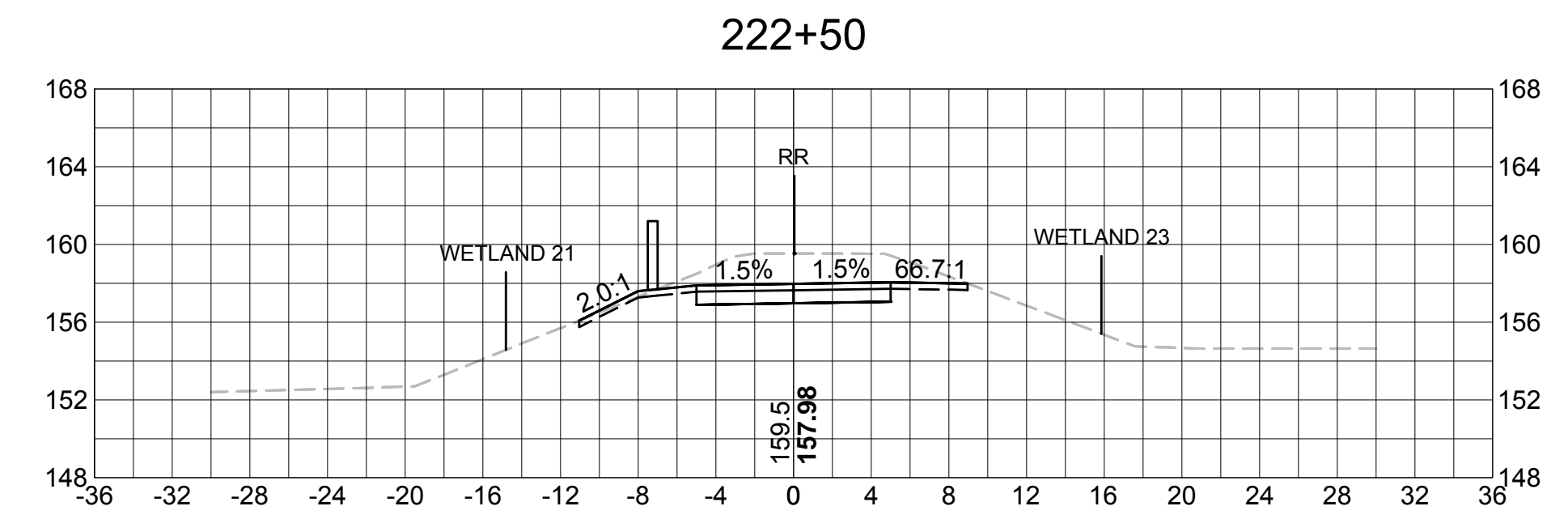
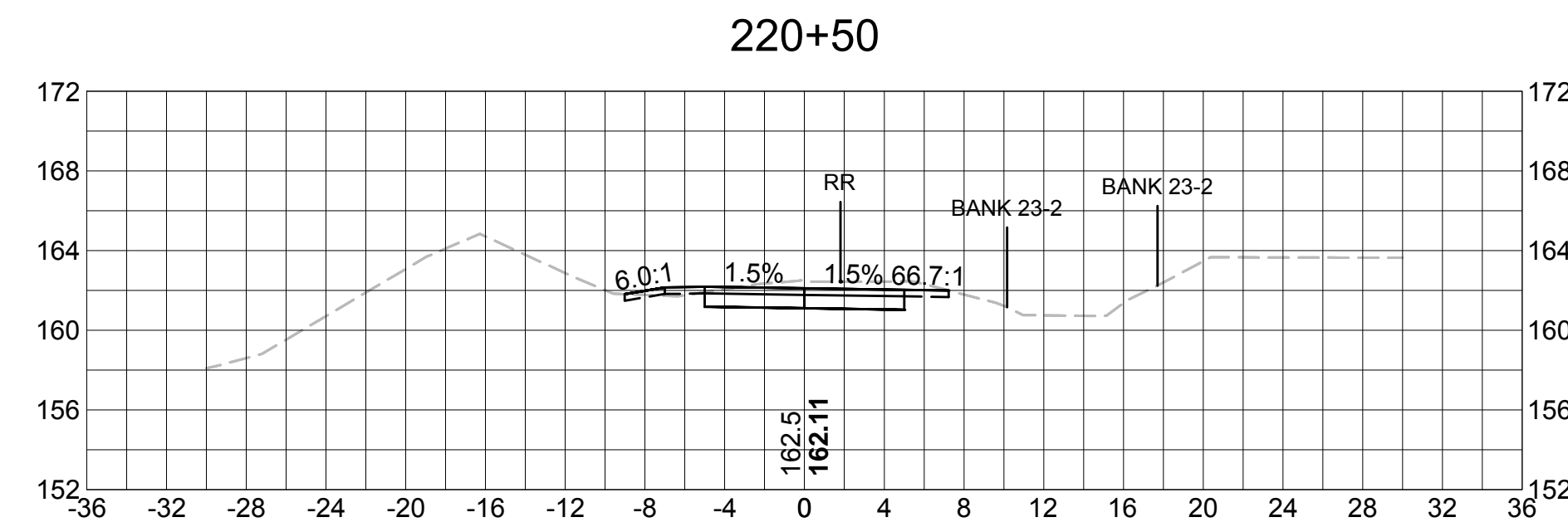
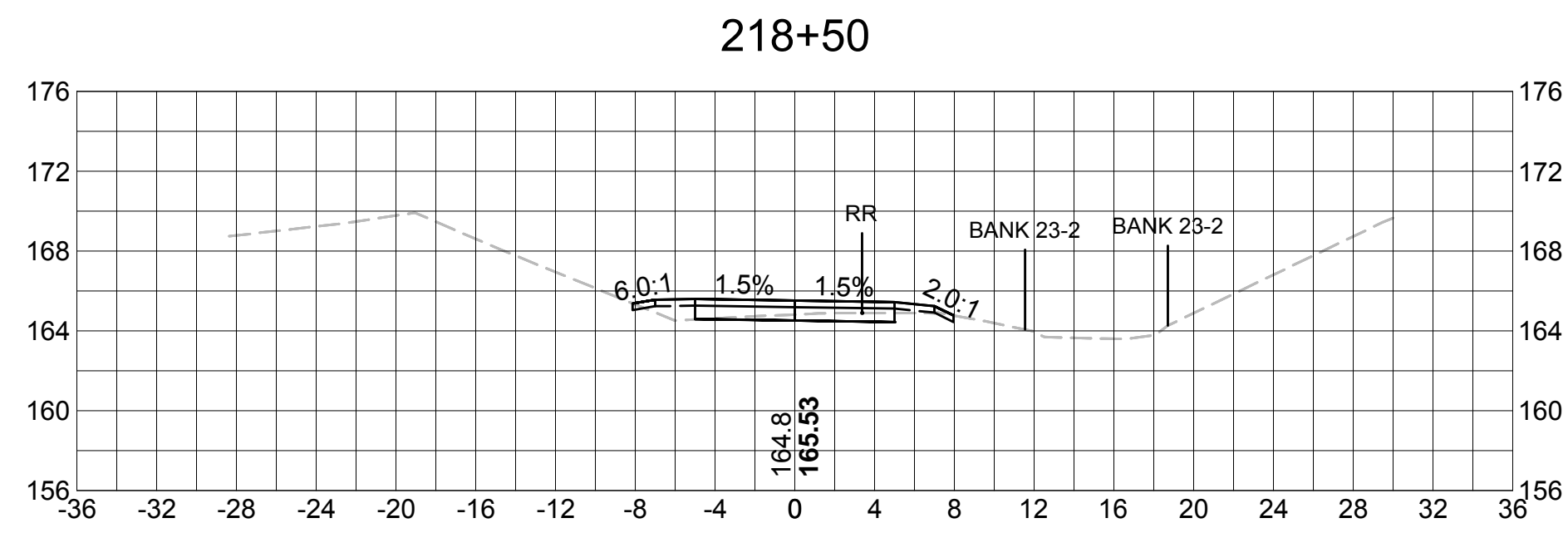
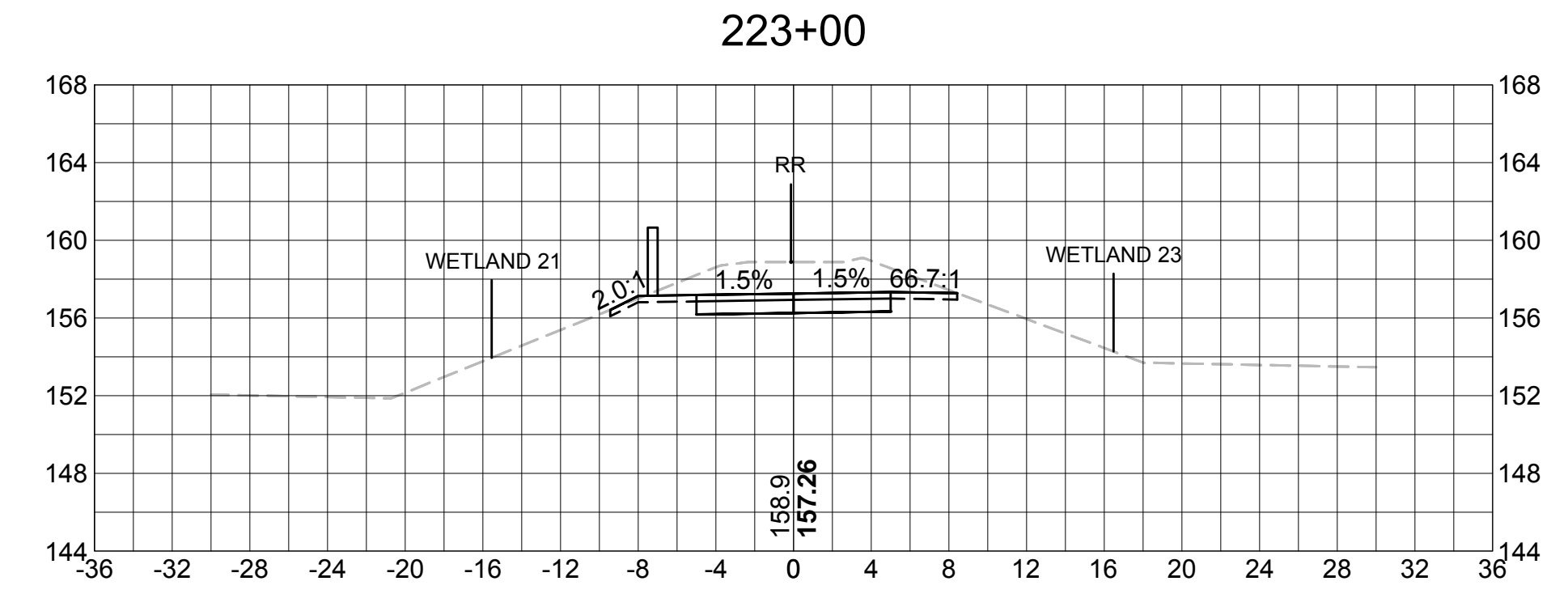
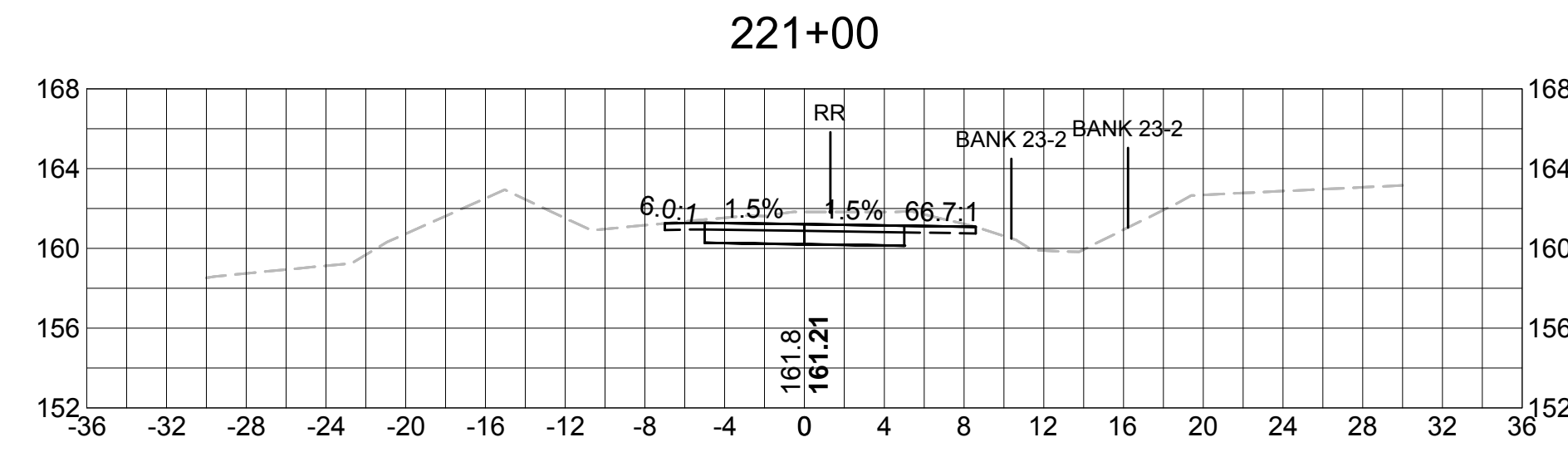
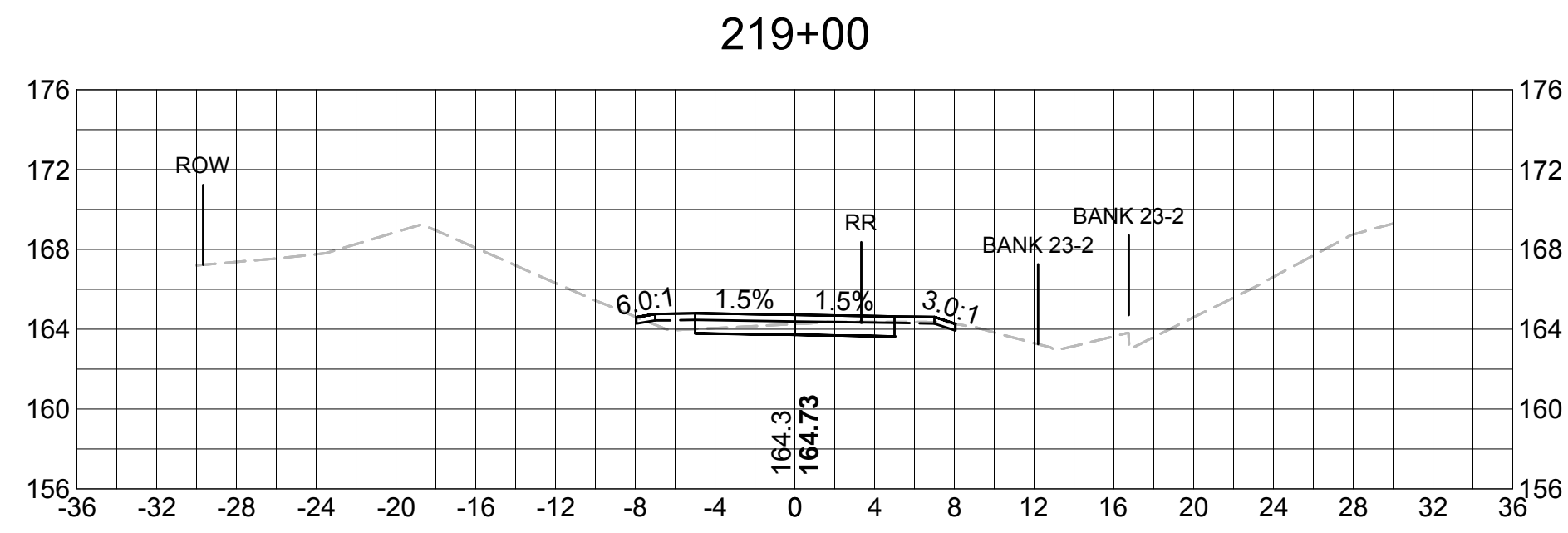
217+00



**SUDBURY
BRUCE FREEMAN RAIL TRAIL**

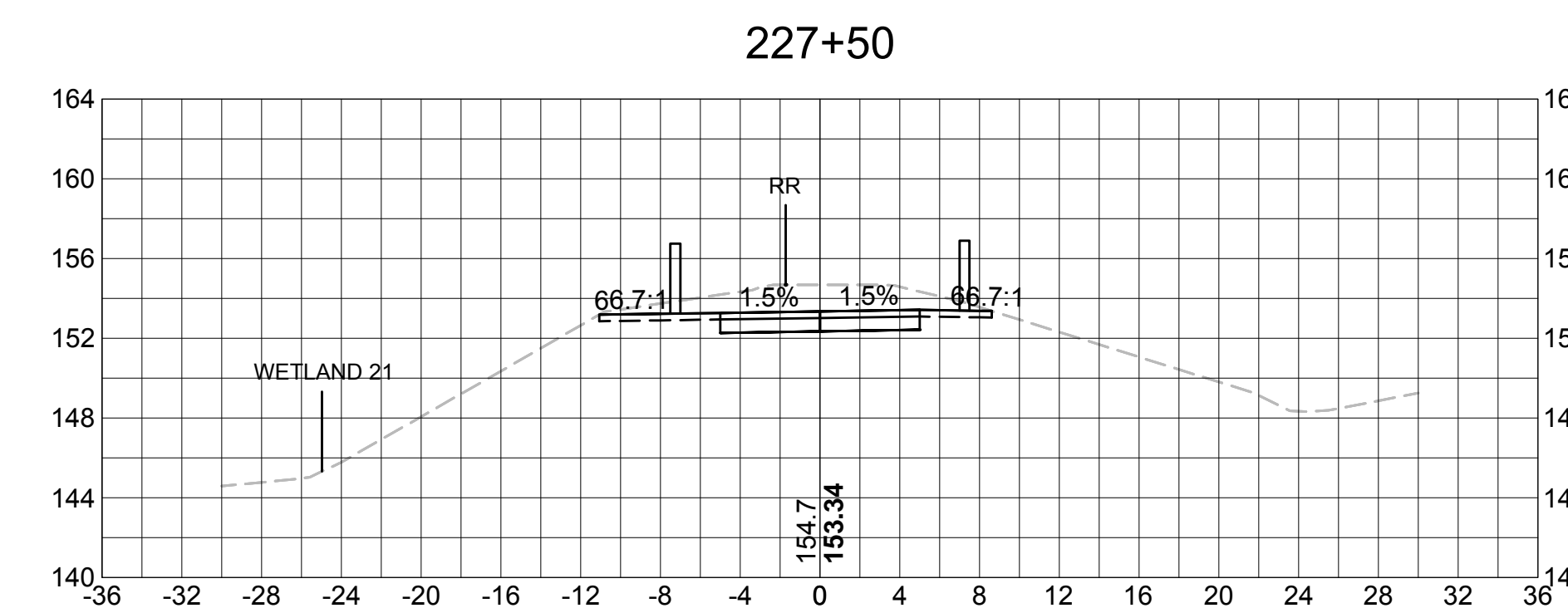
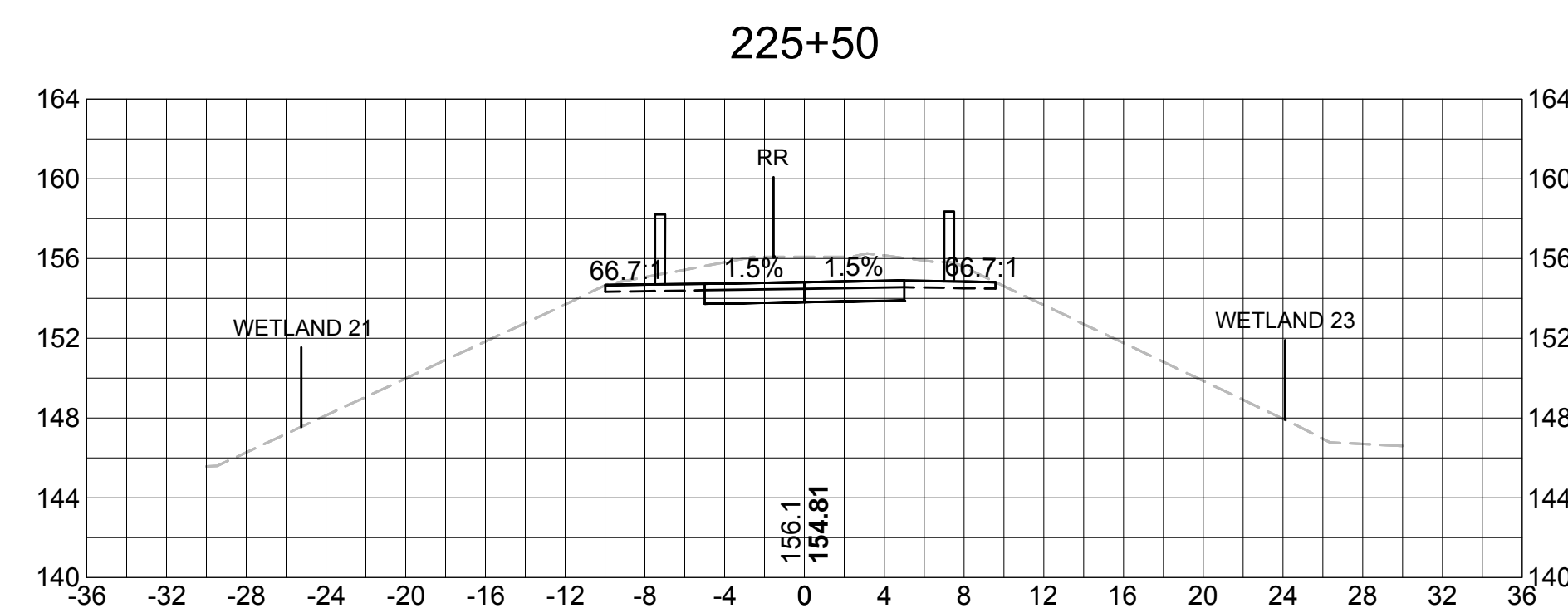
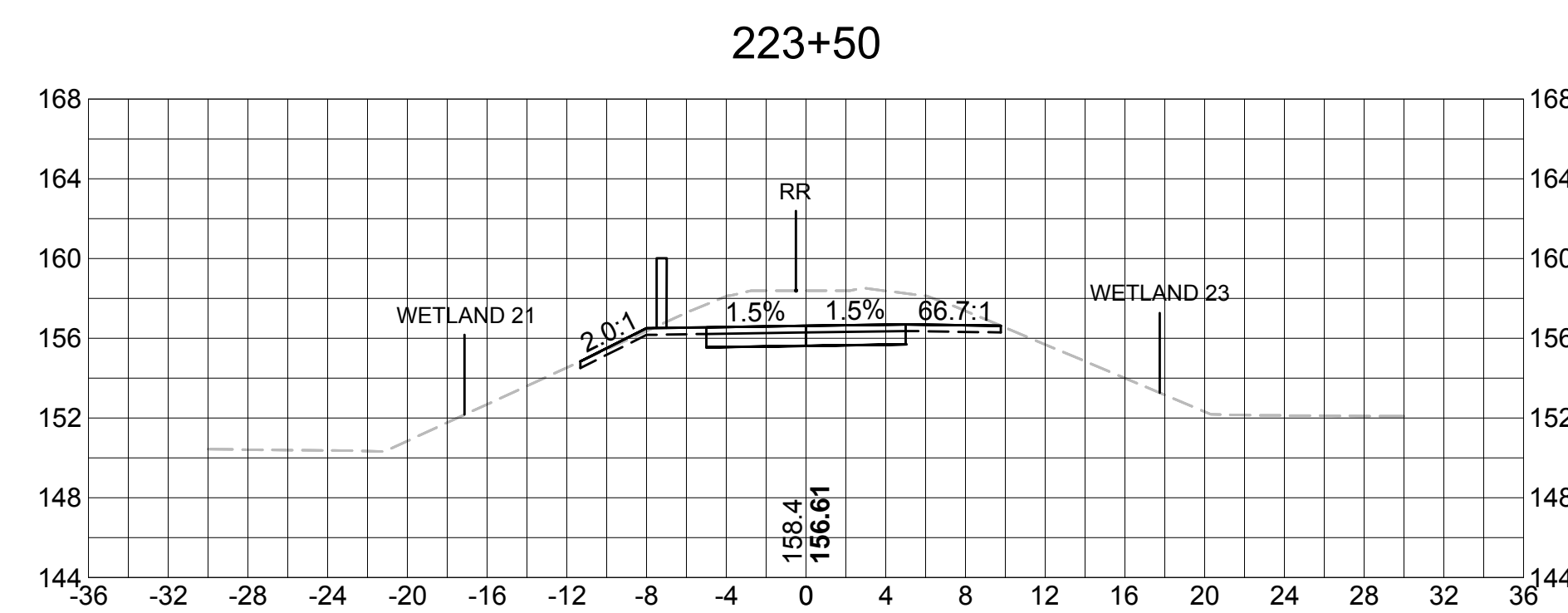
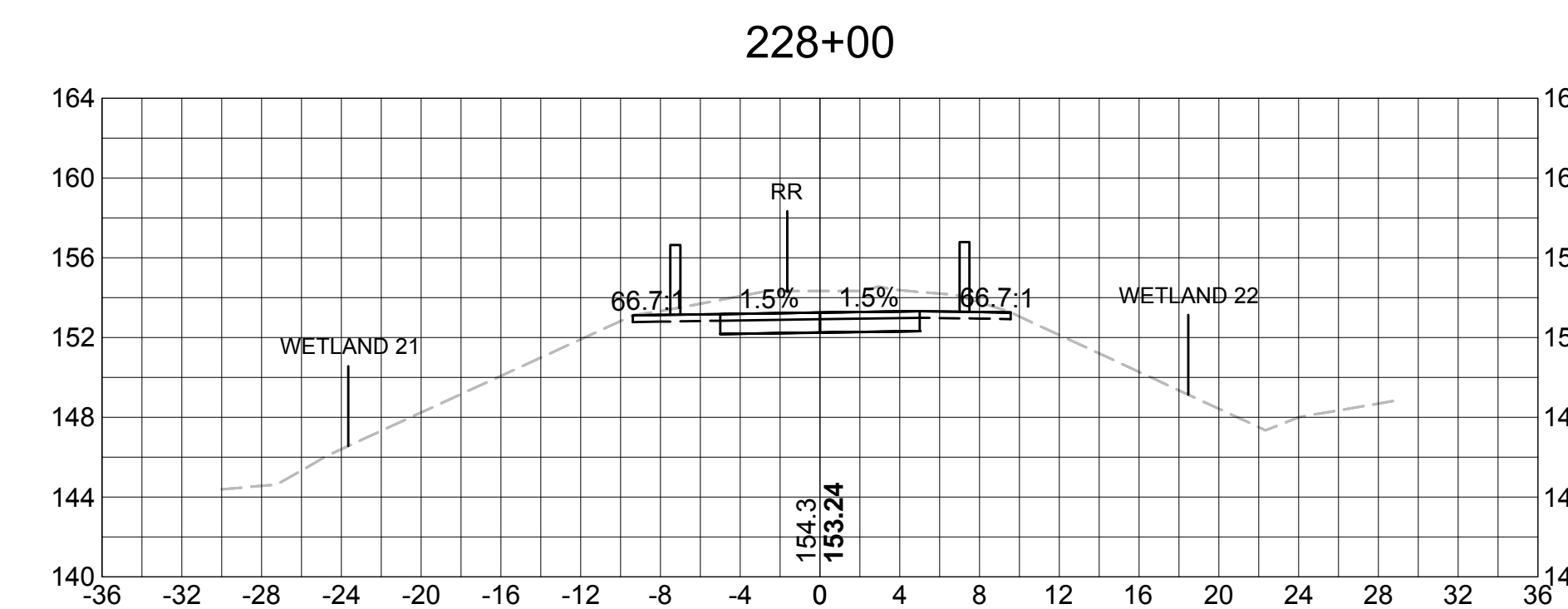
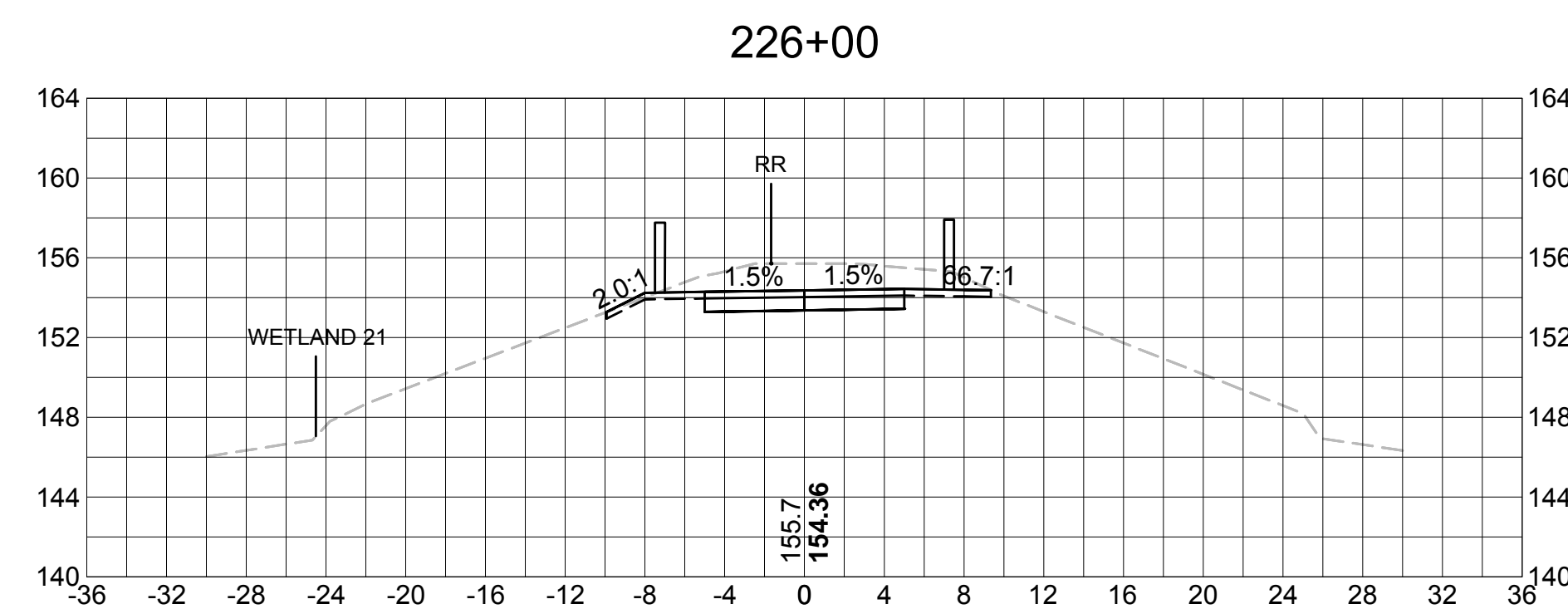
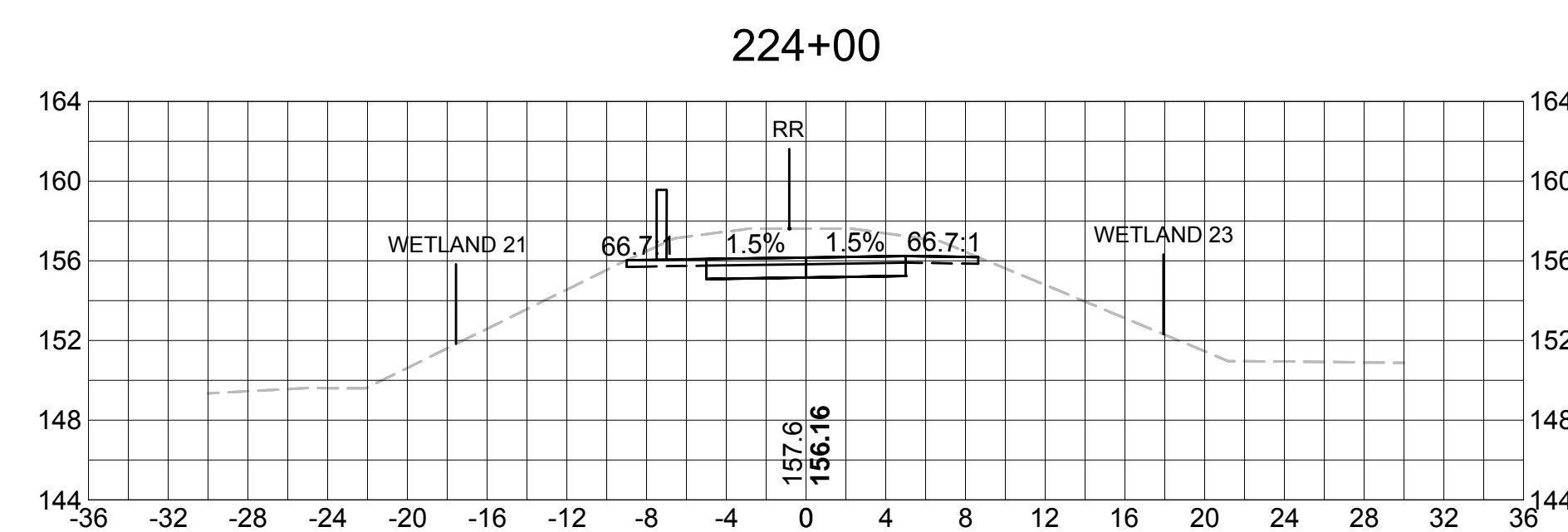
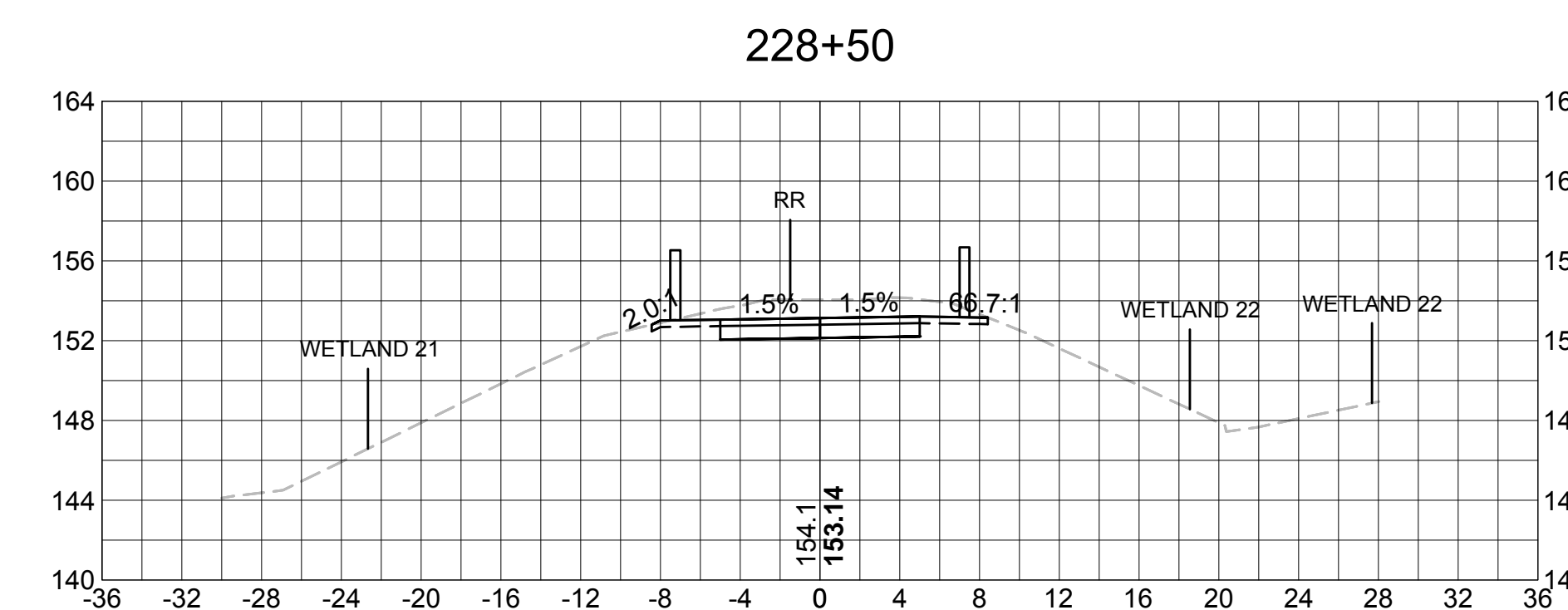
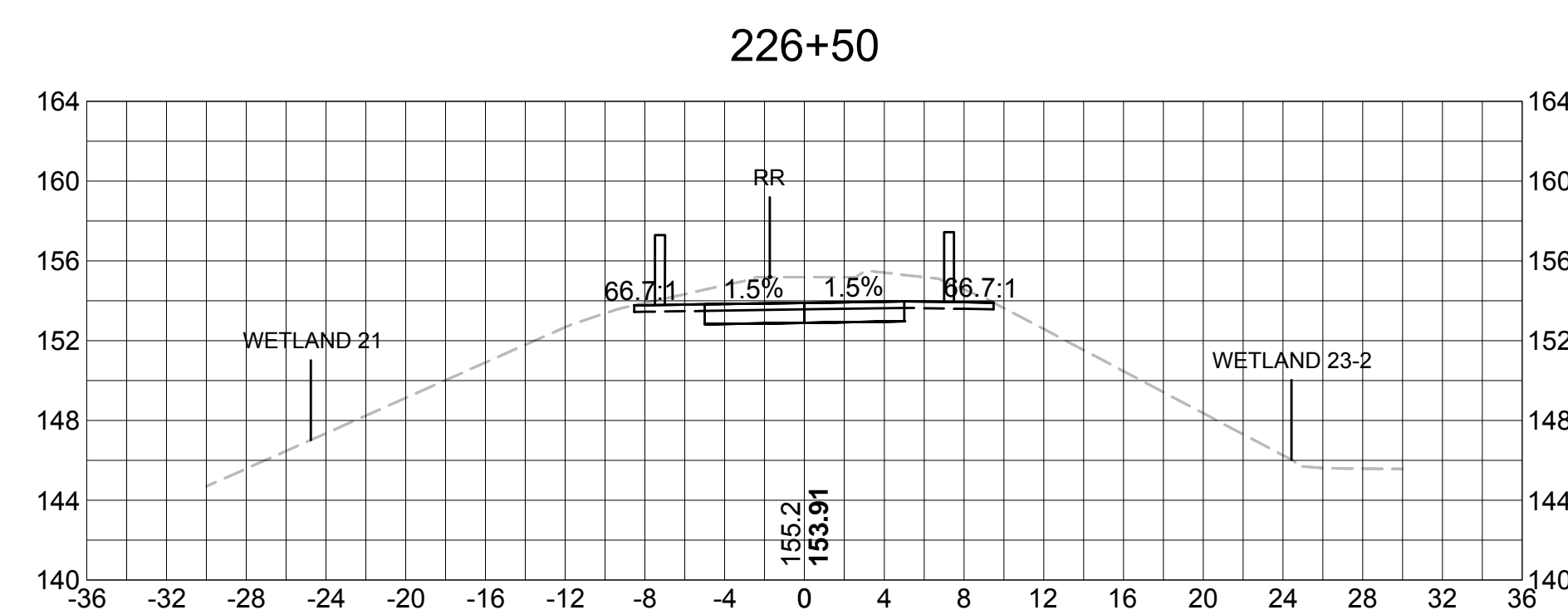
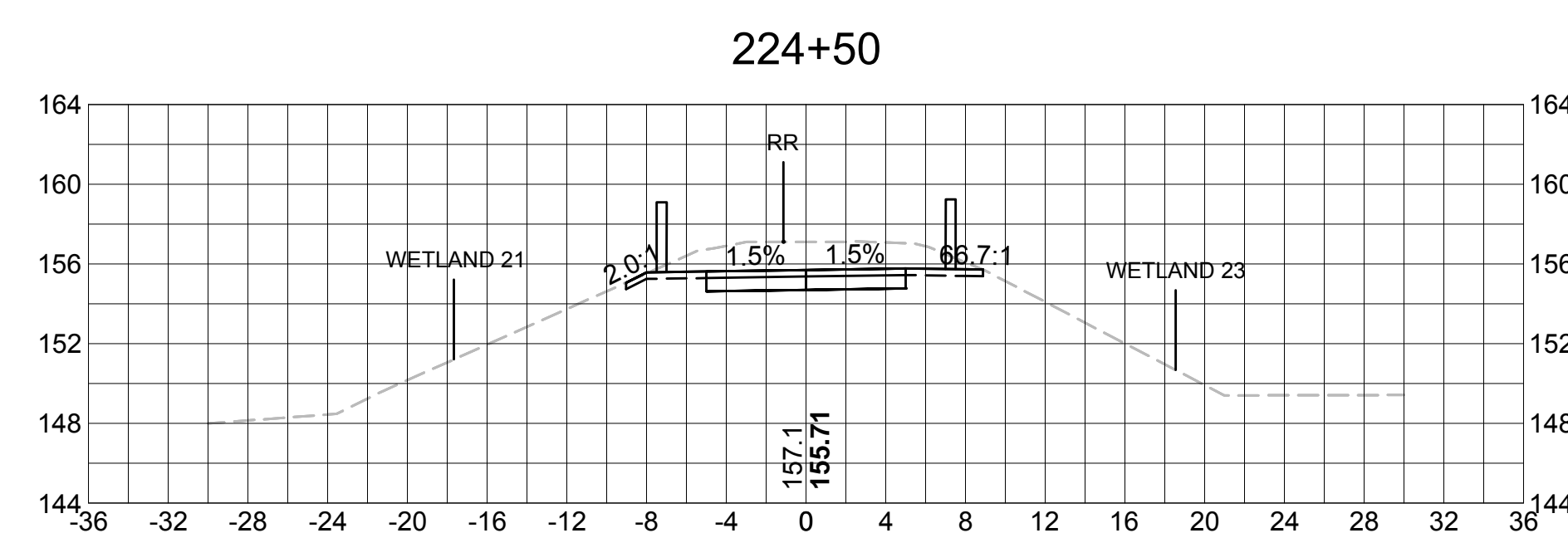
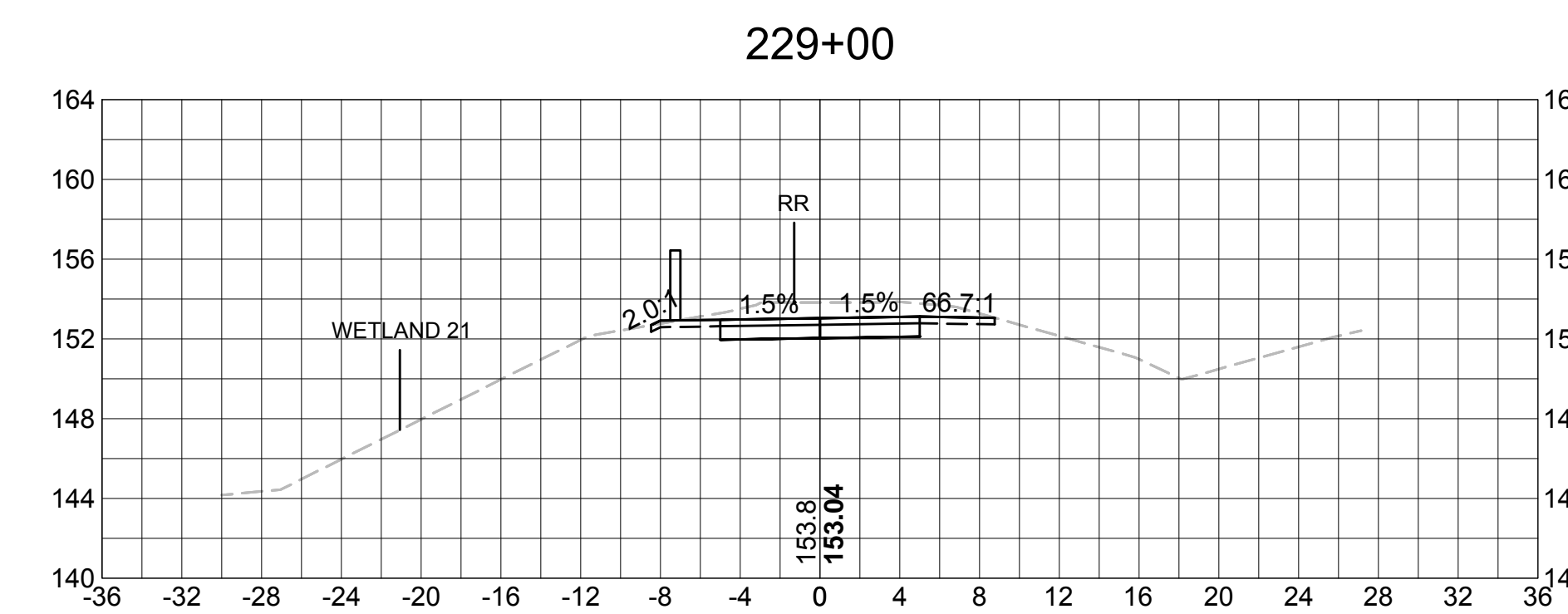
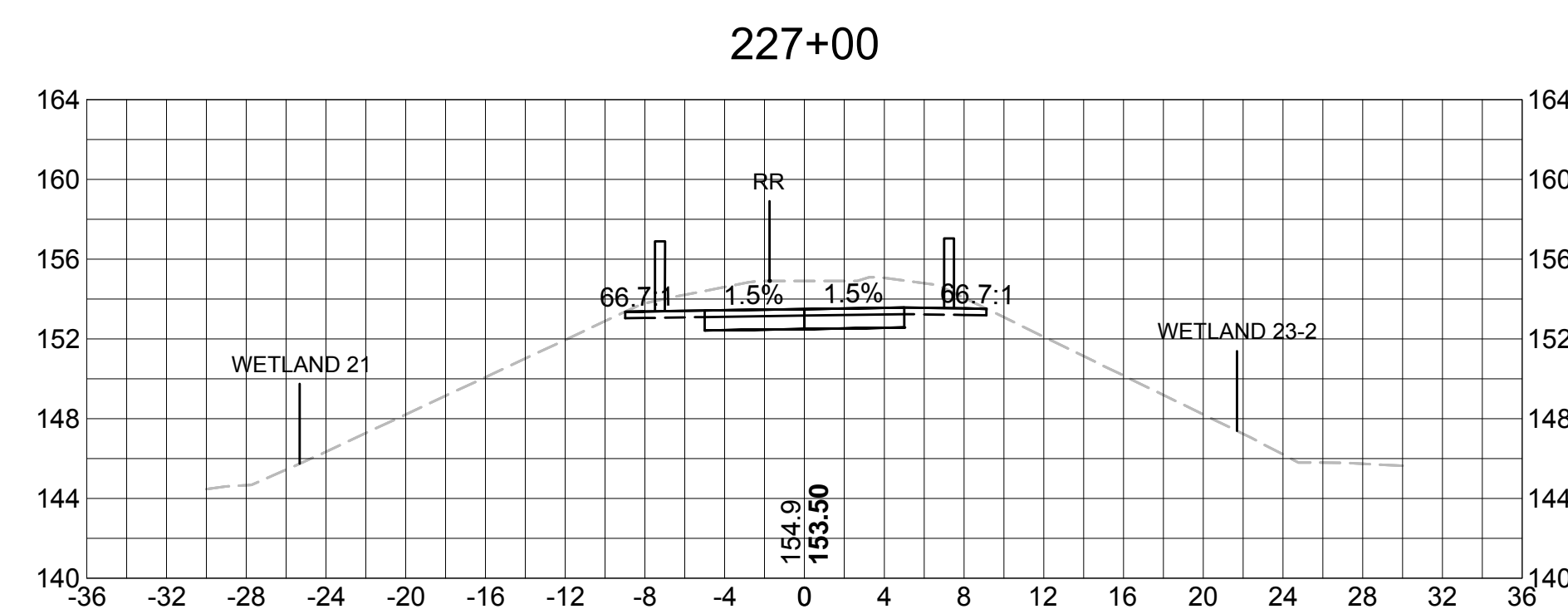
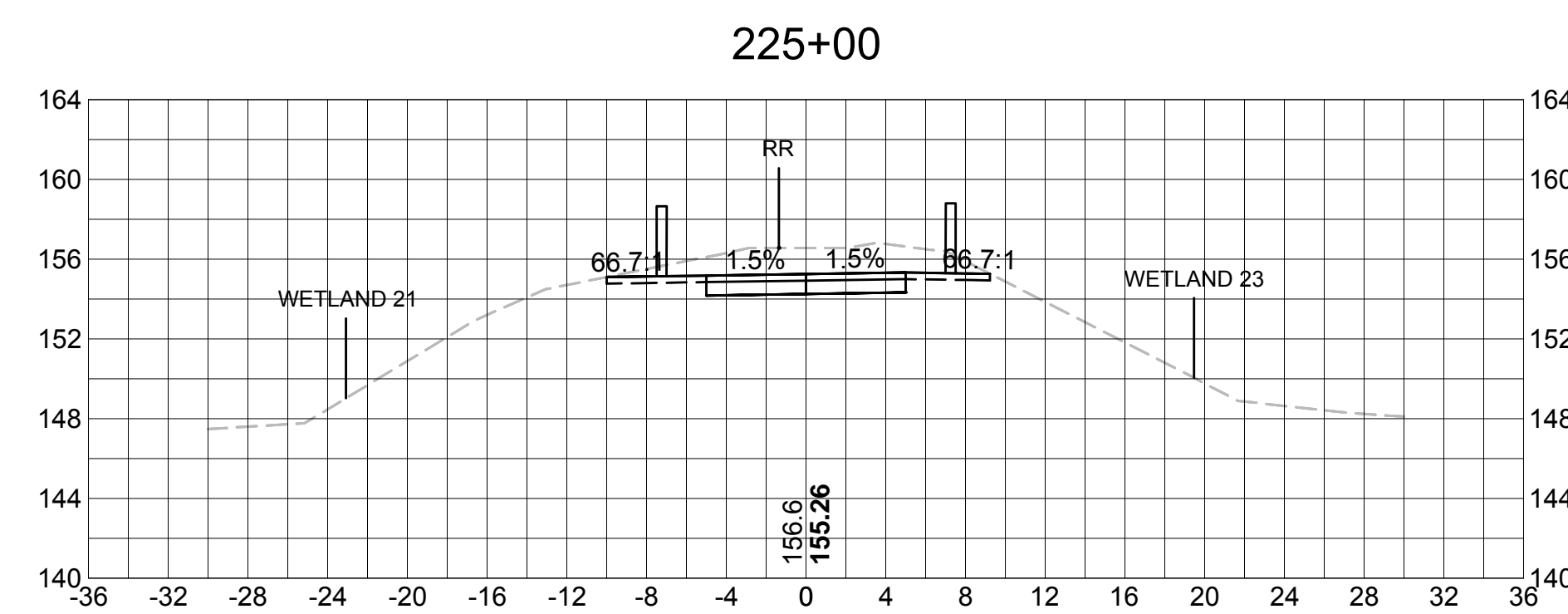
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	102	123
PROJECT FILE NO. 608164			

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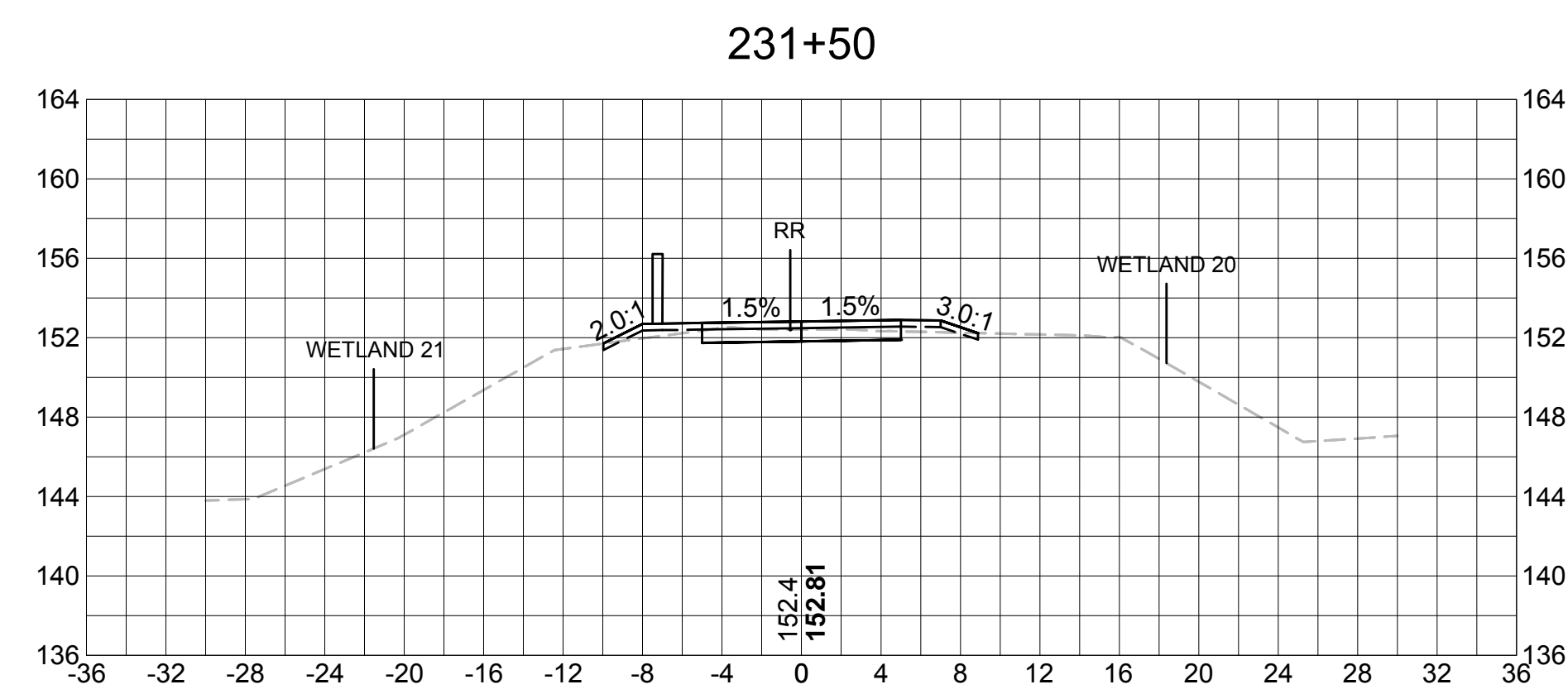
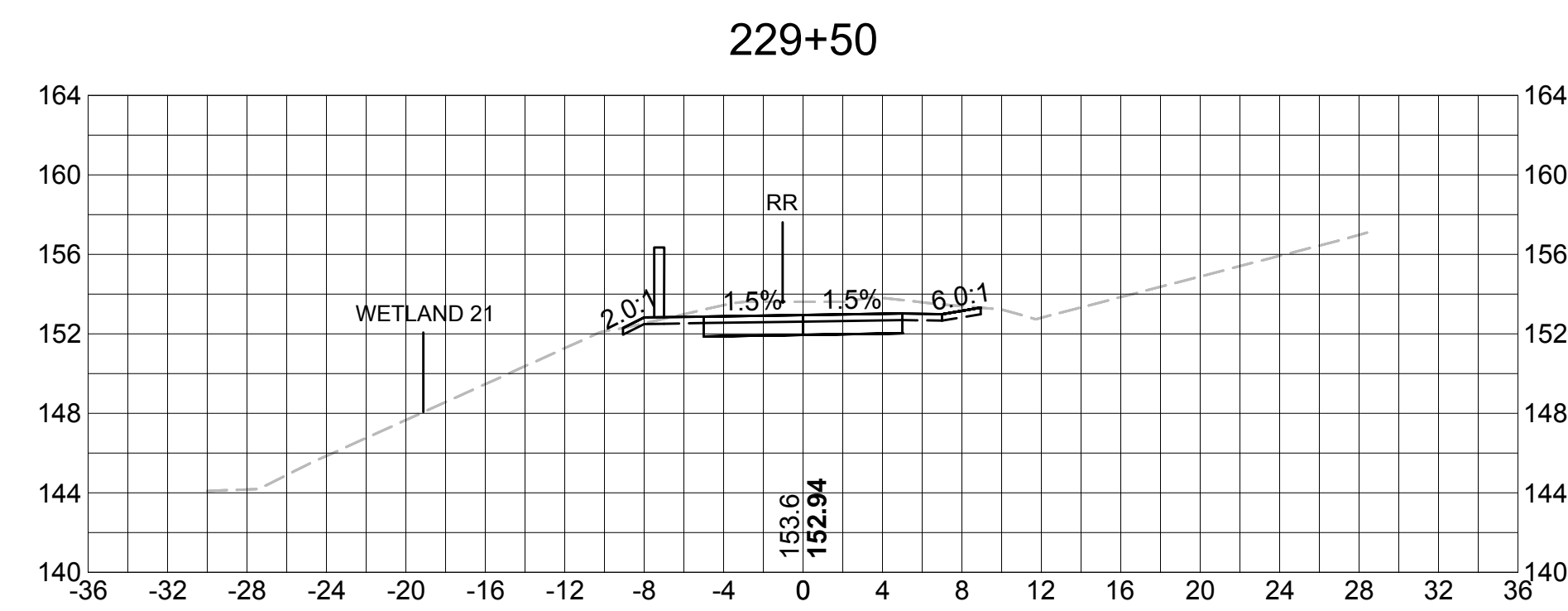
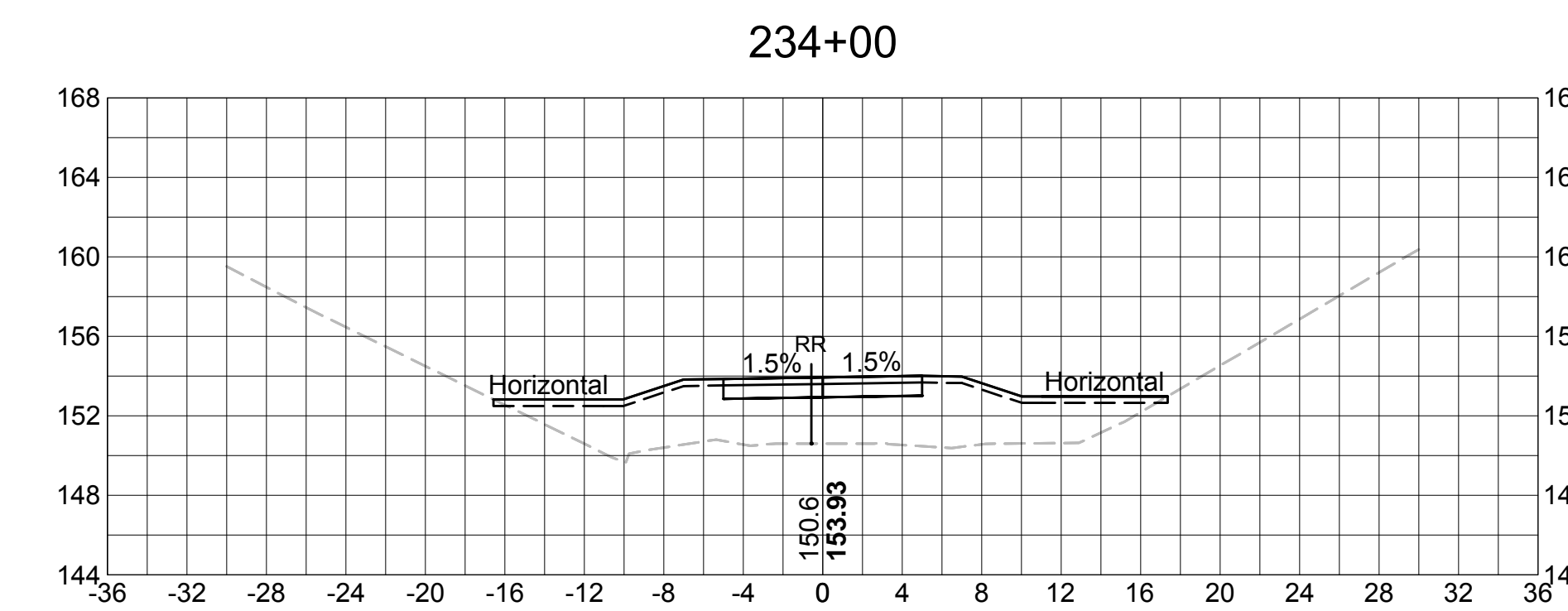
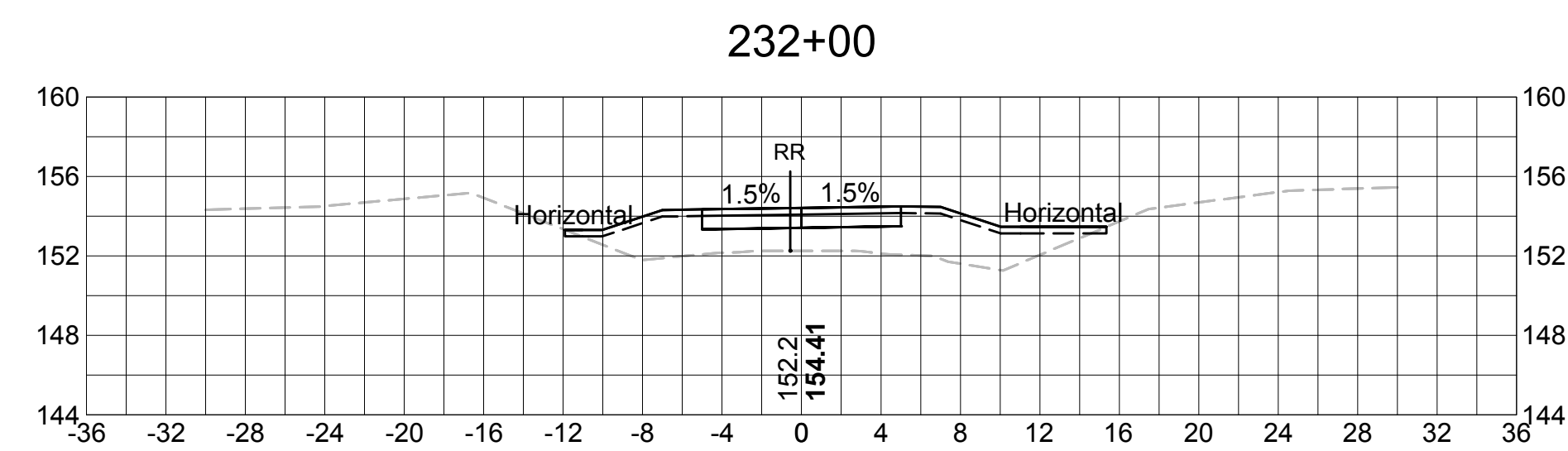
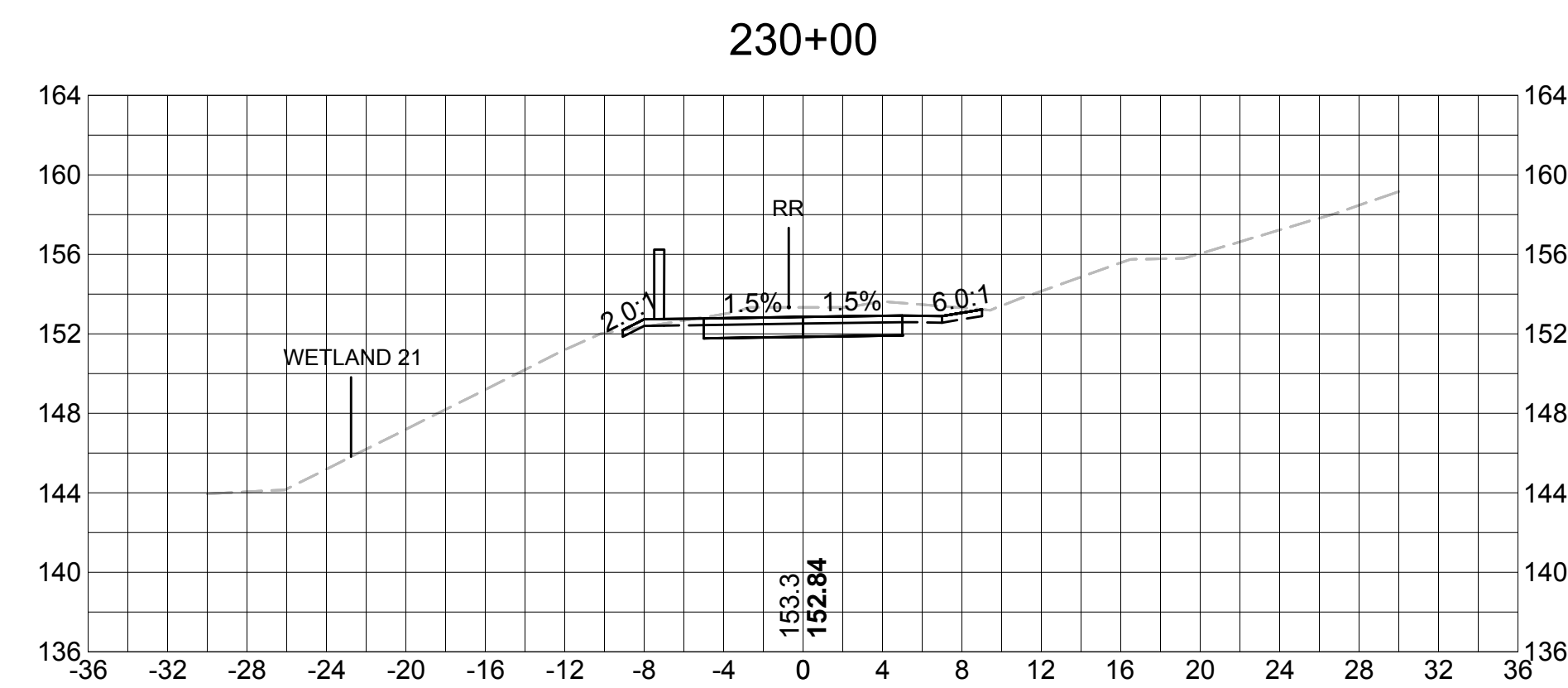
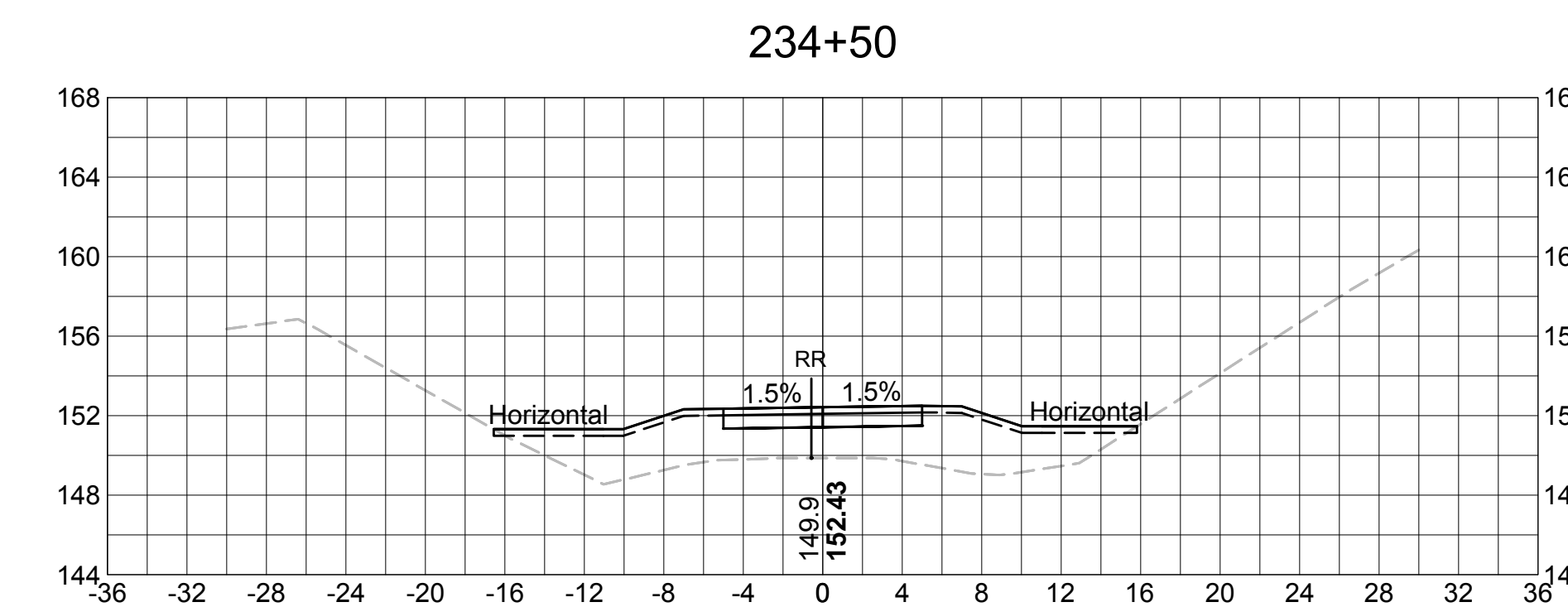
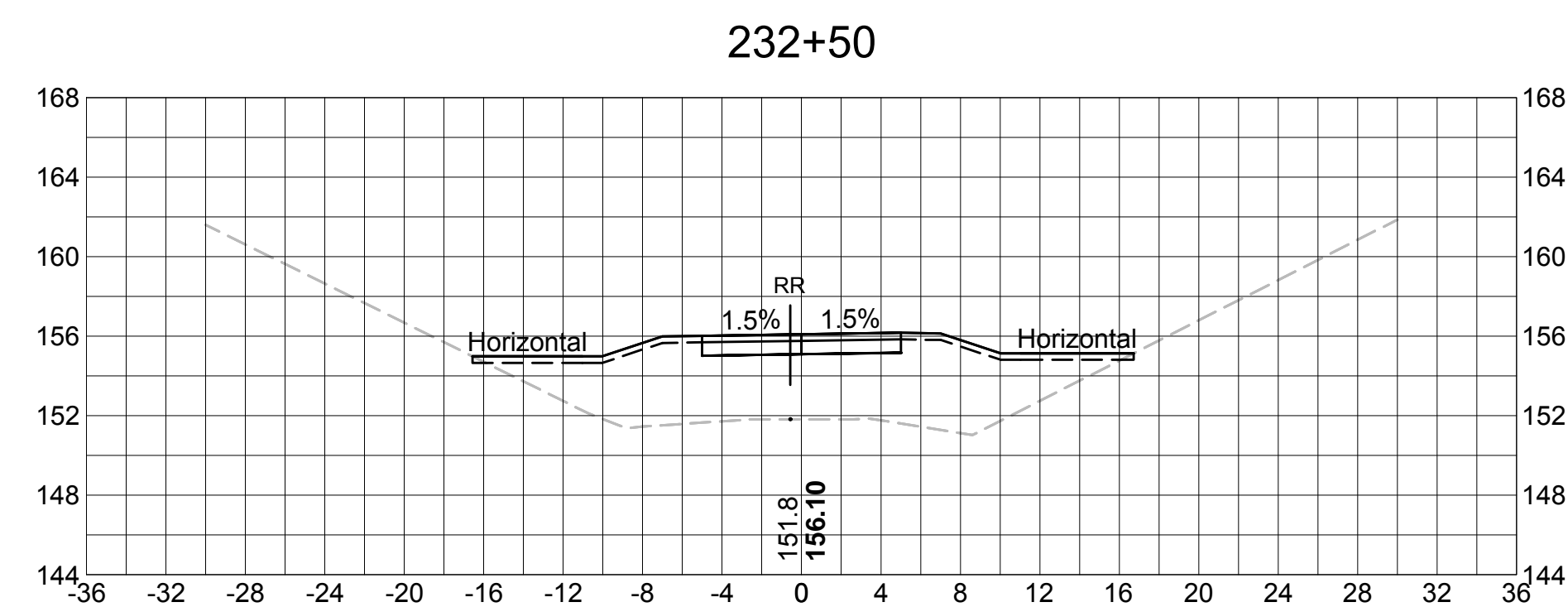
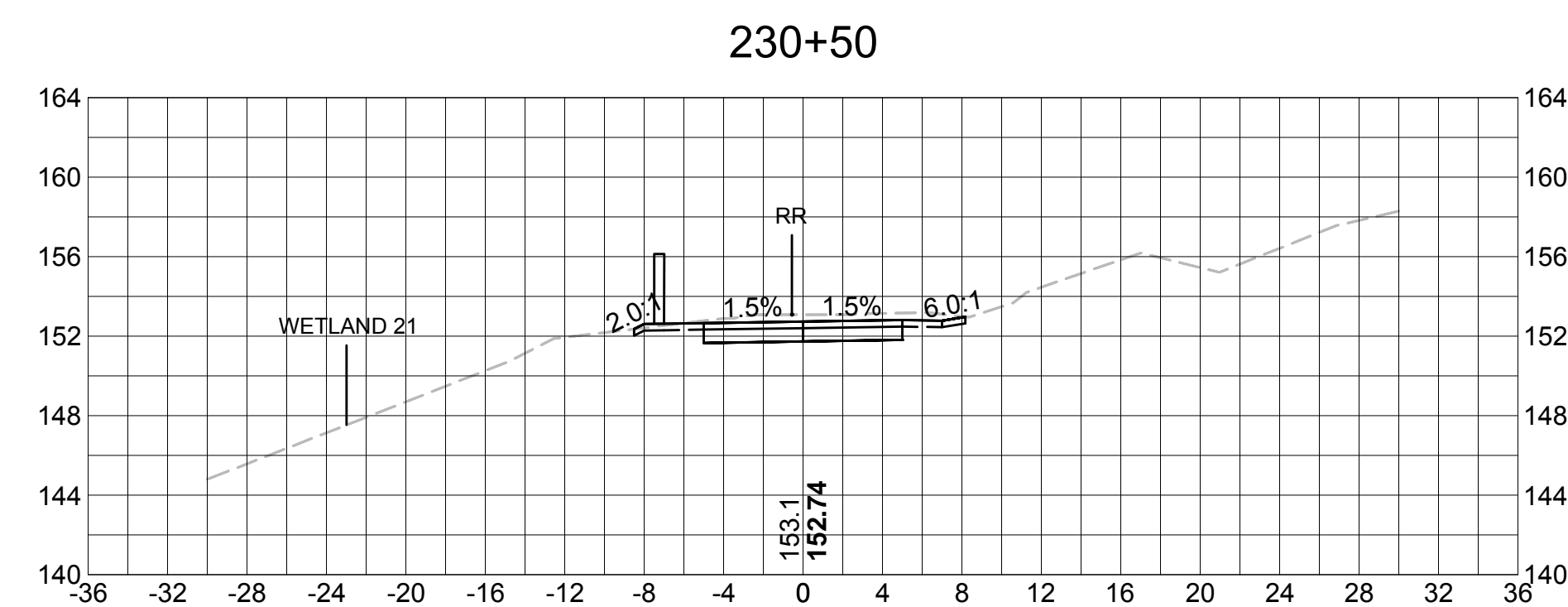
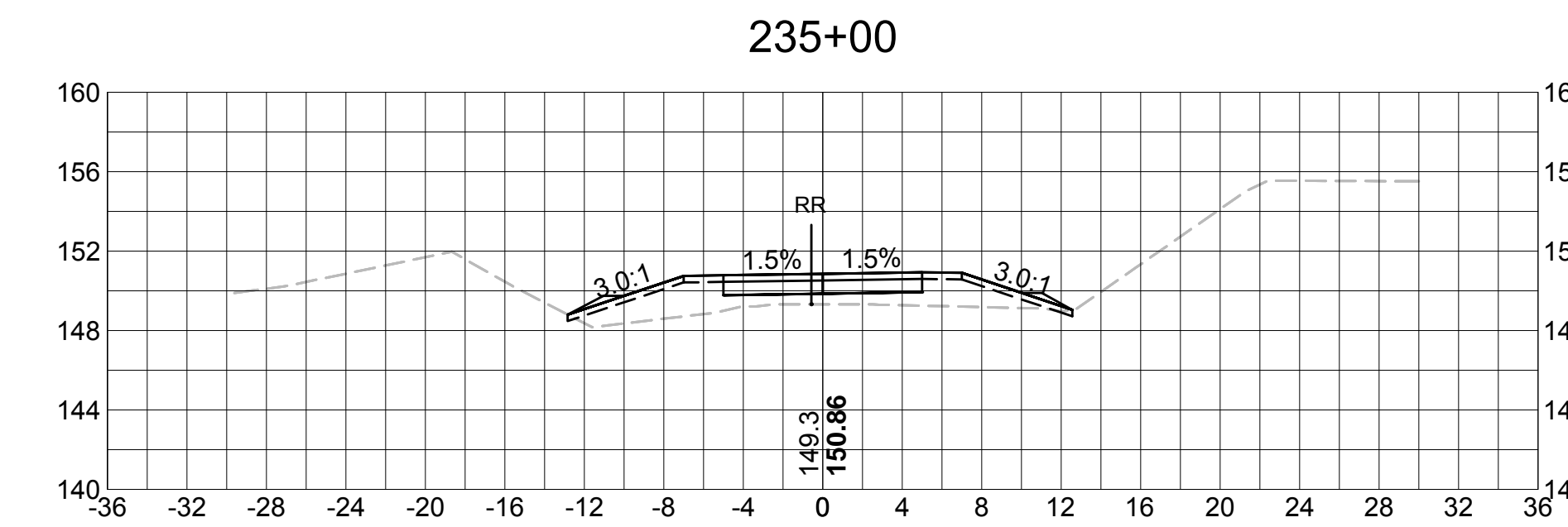
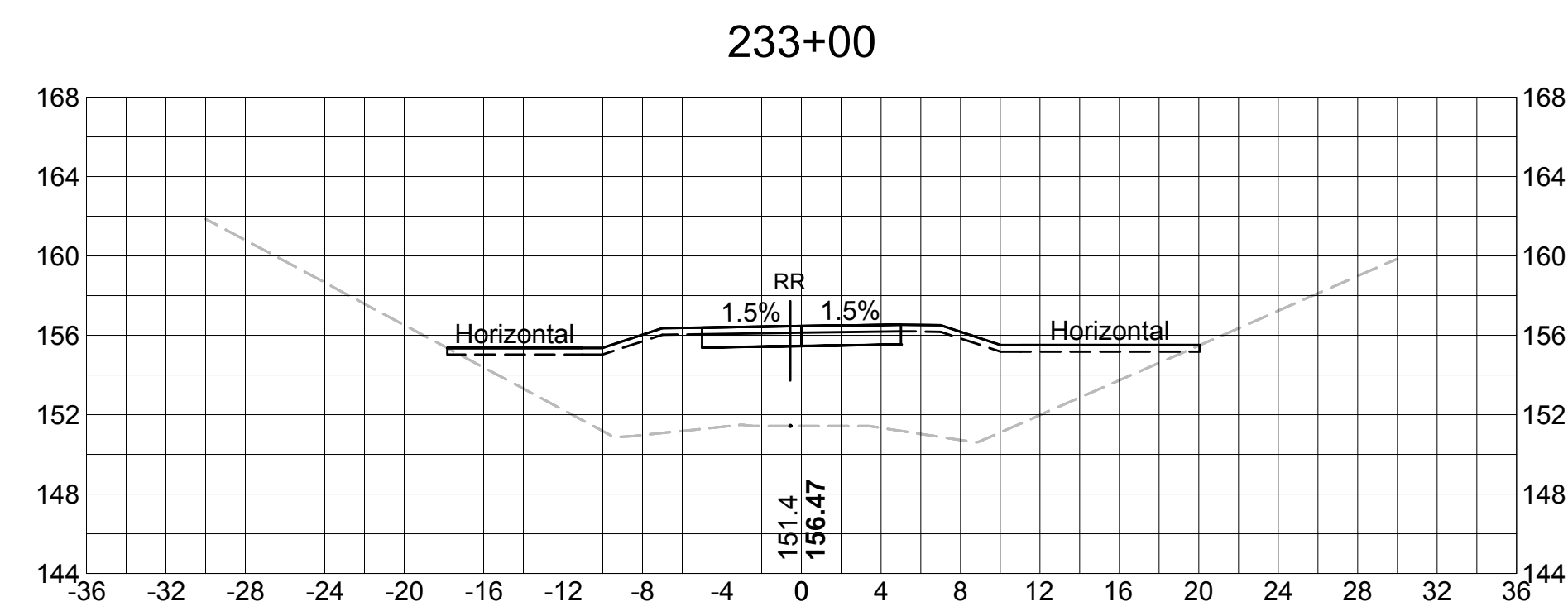
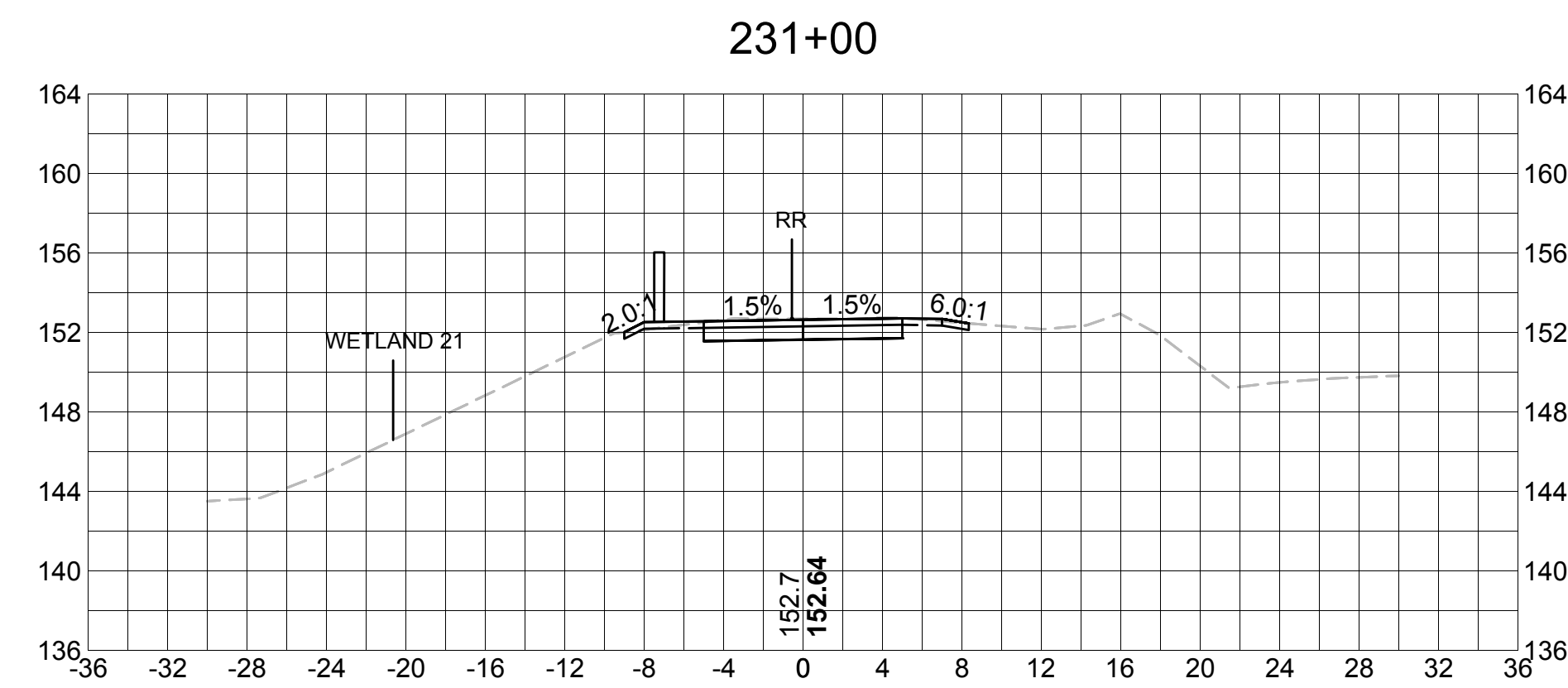
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	103	123
PROJECT FILE NO. 608164			

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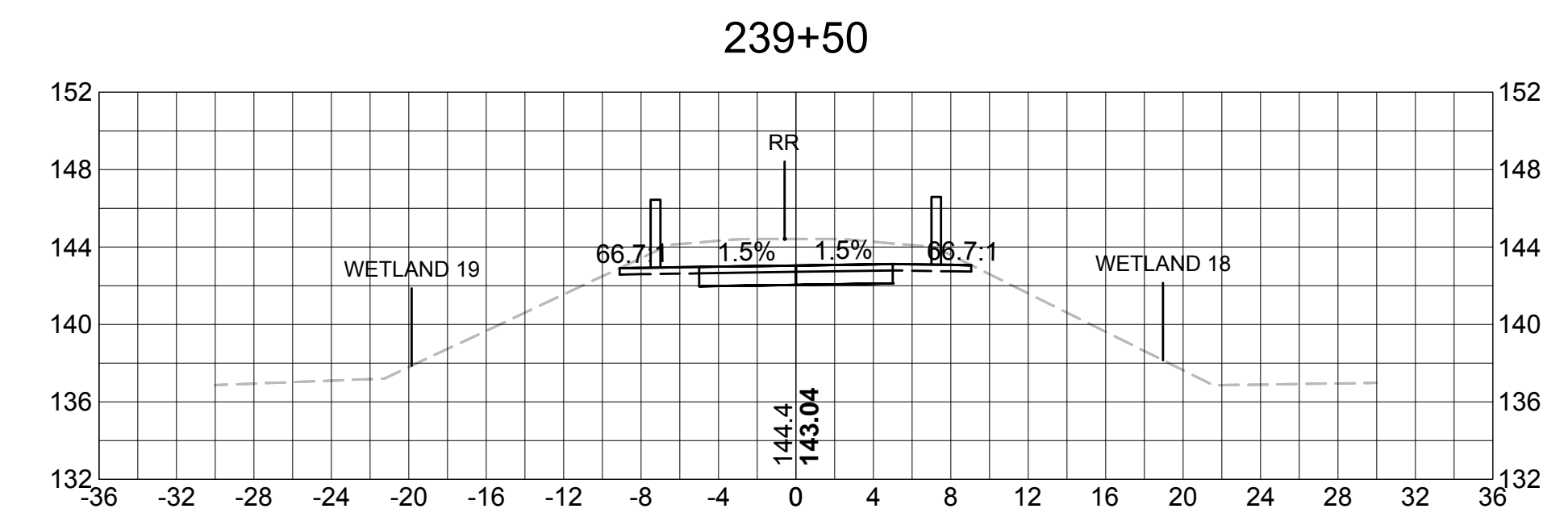
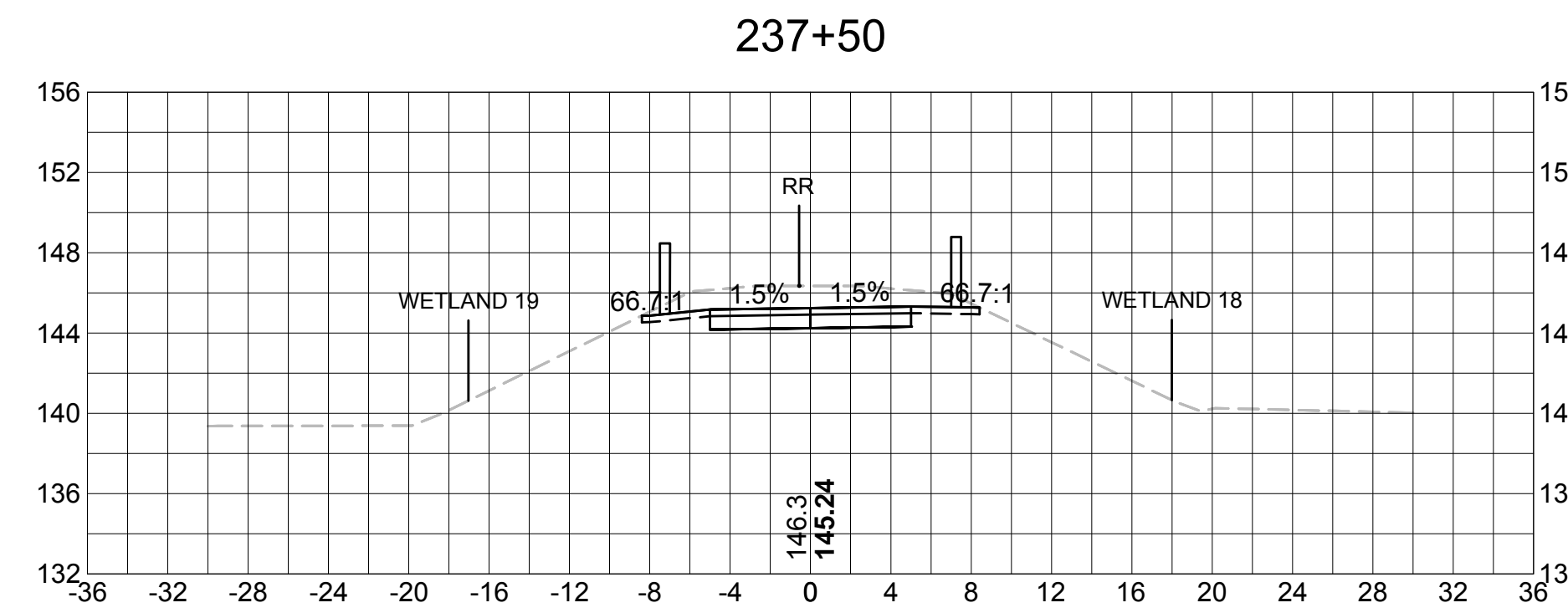
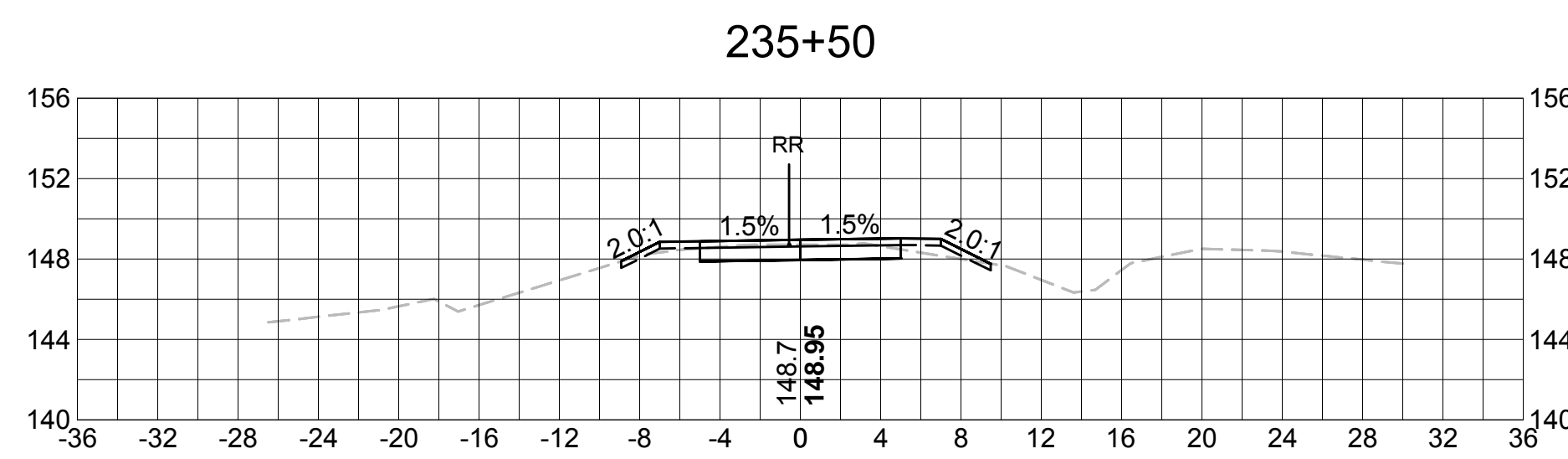
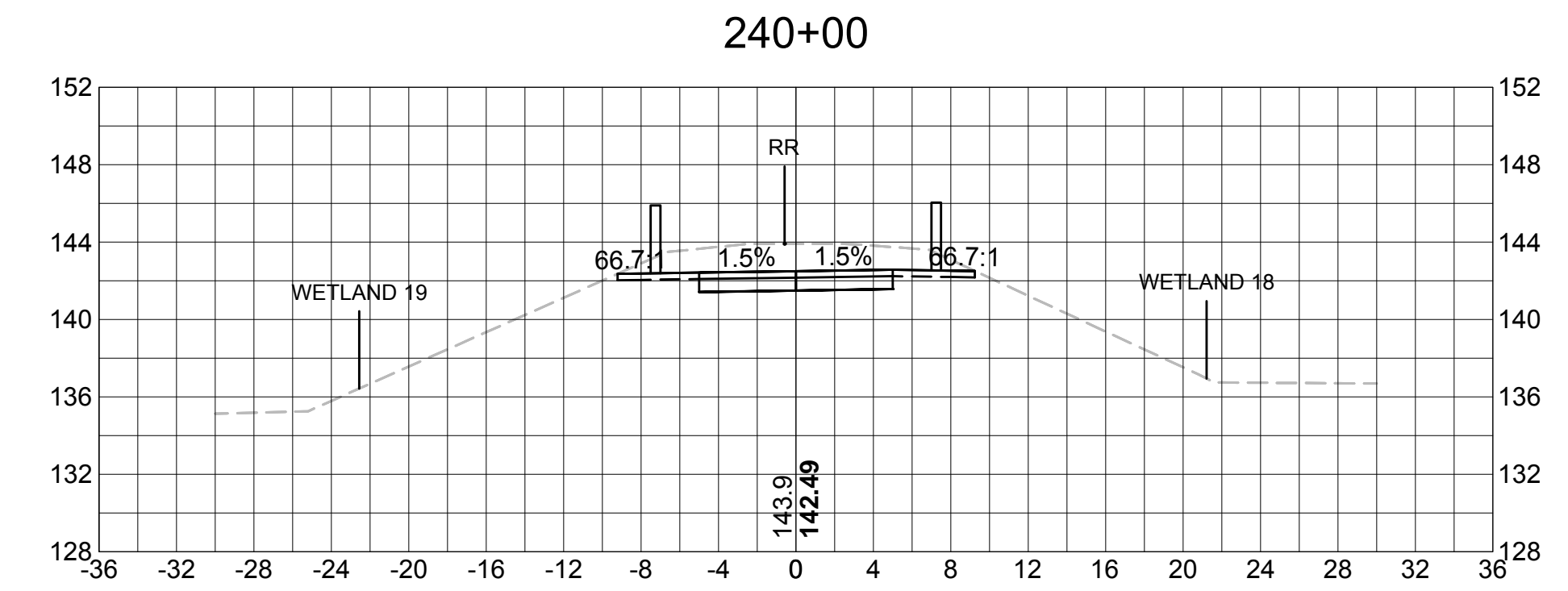
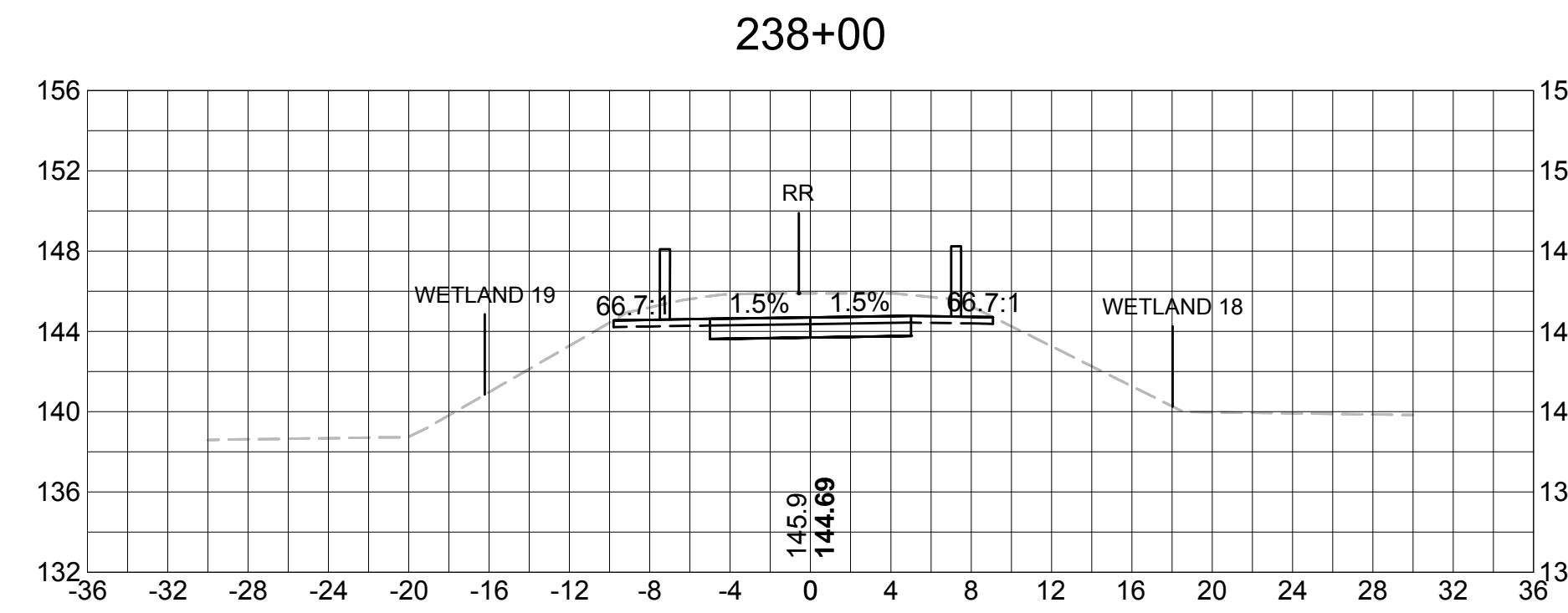
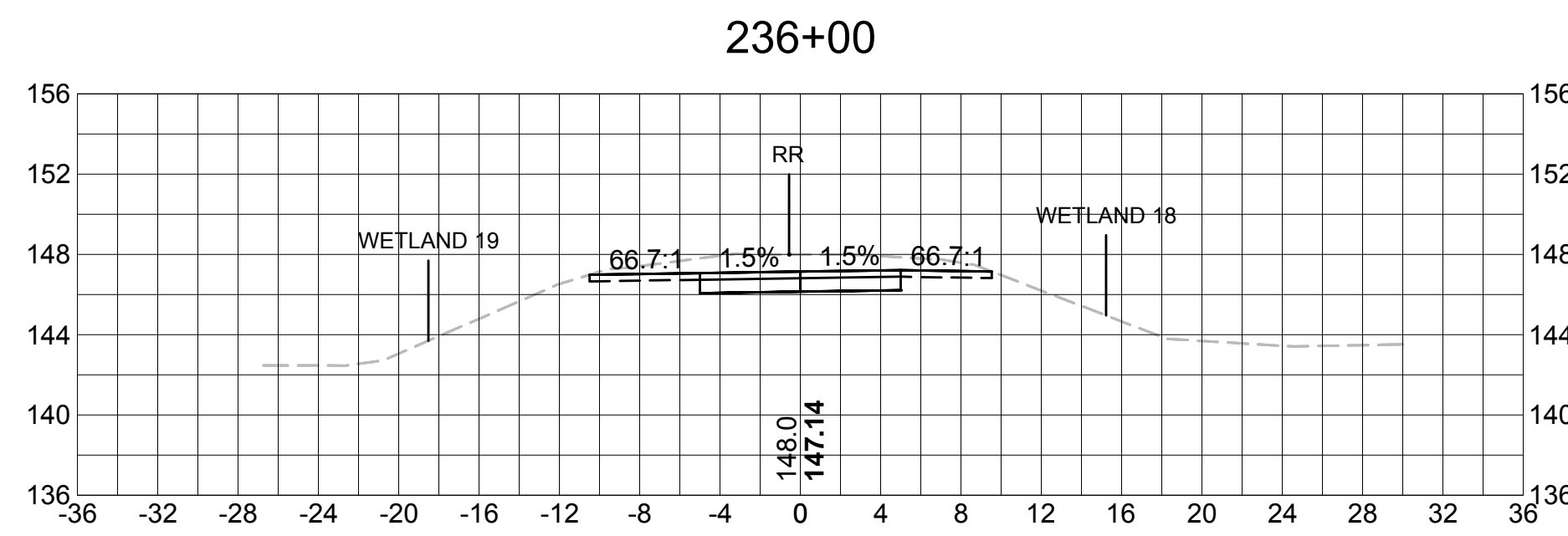
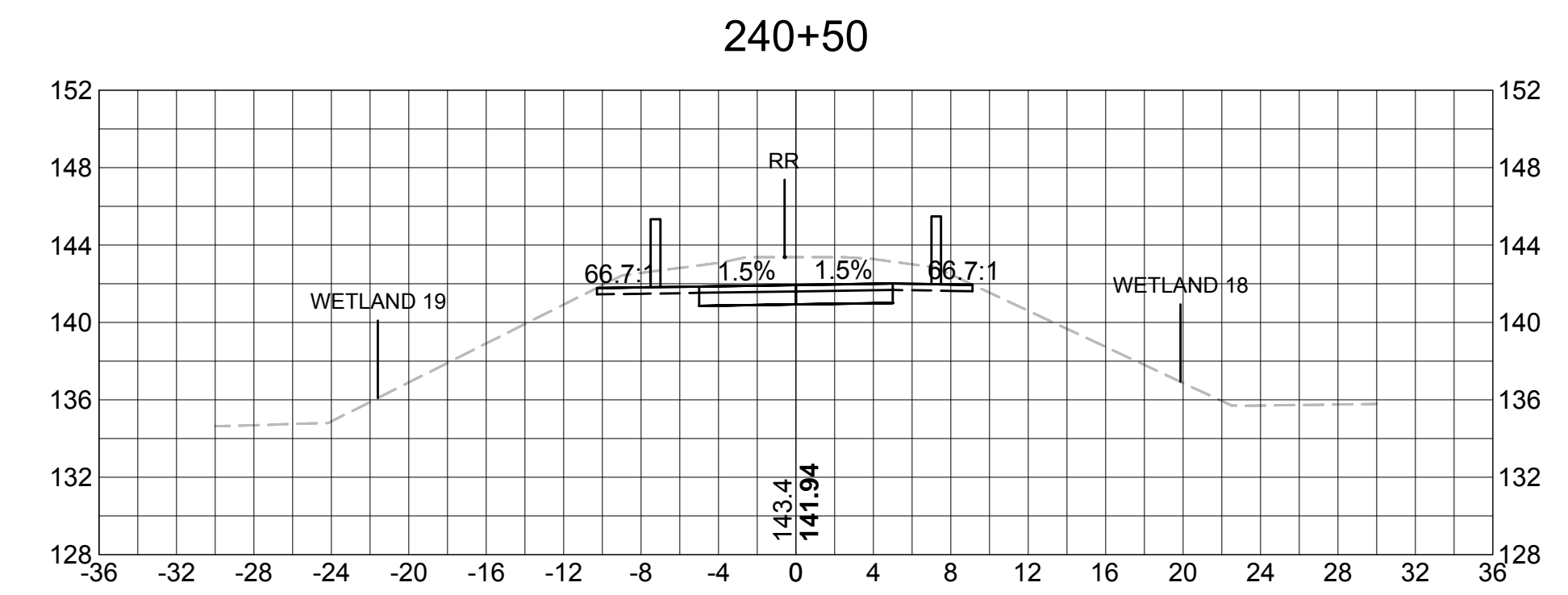
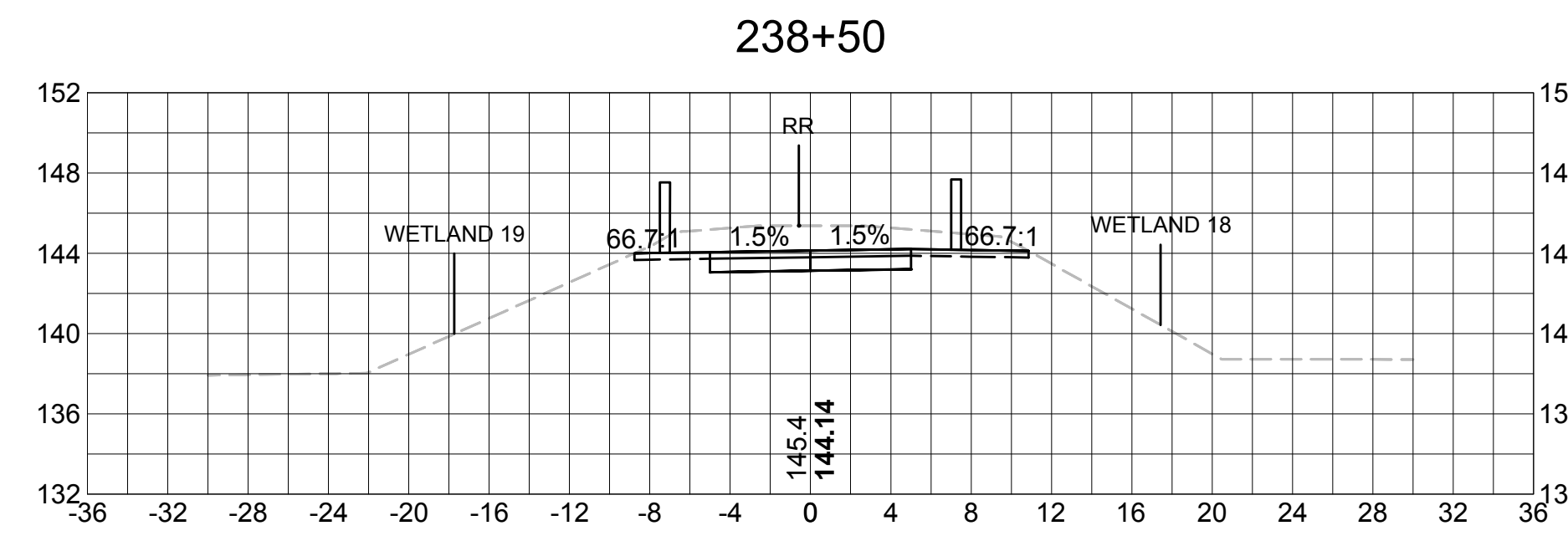
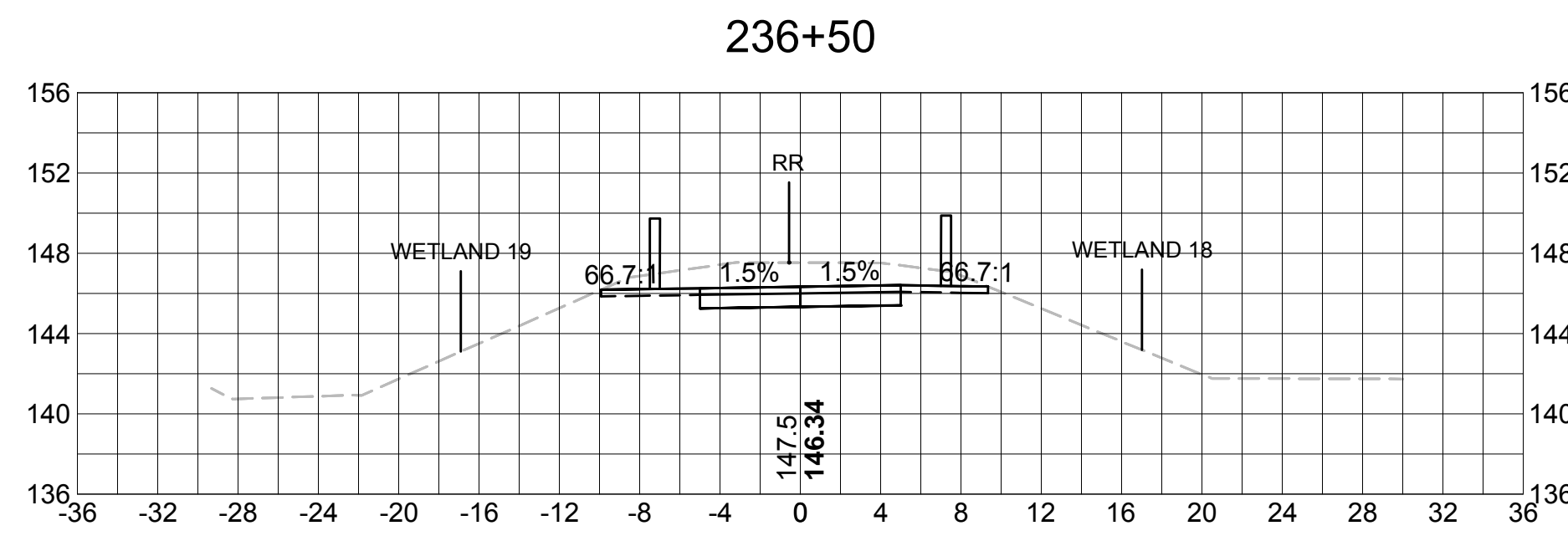
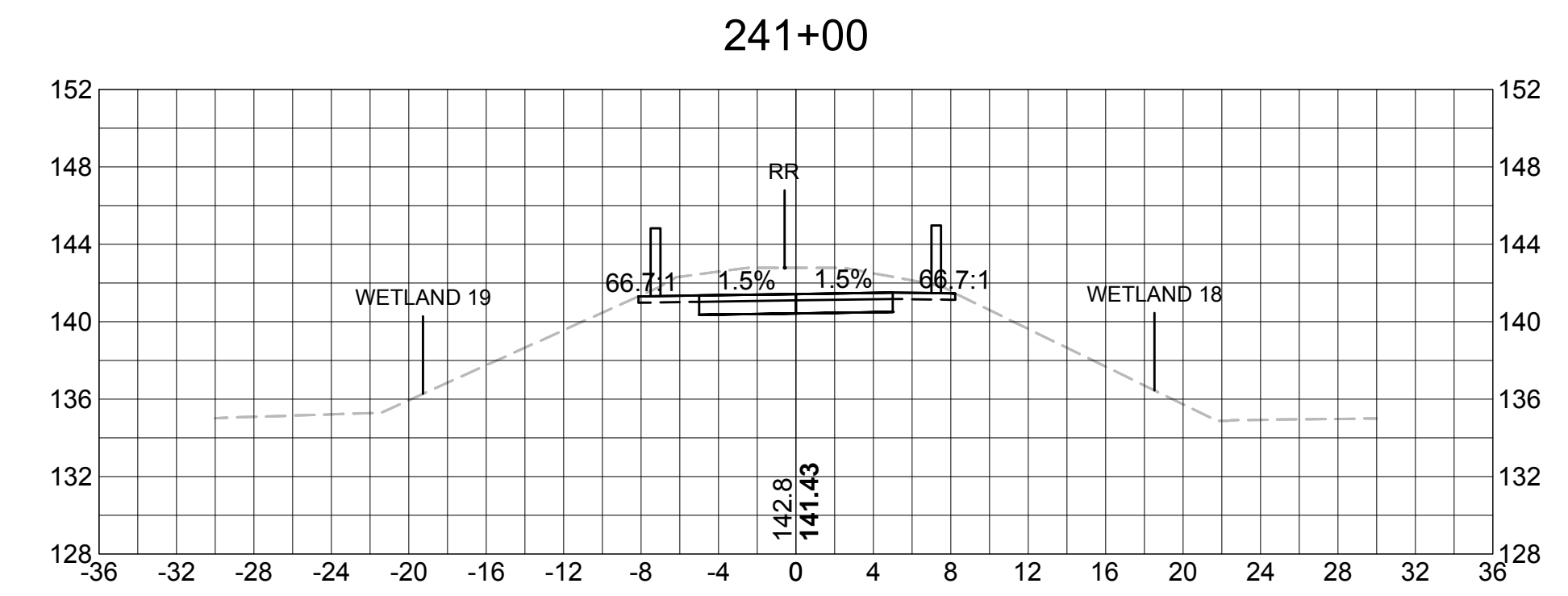
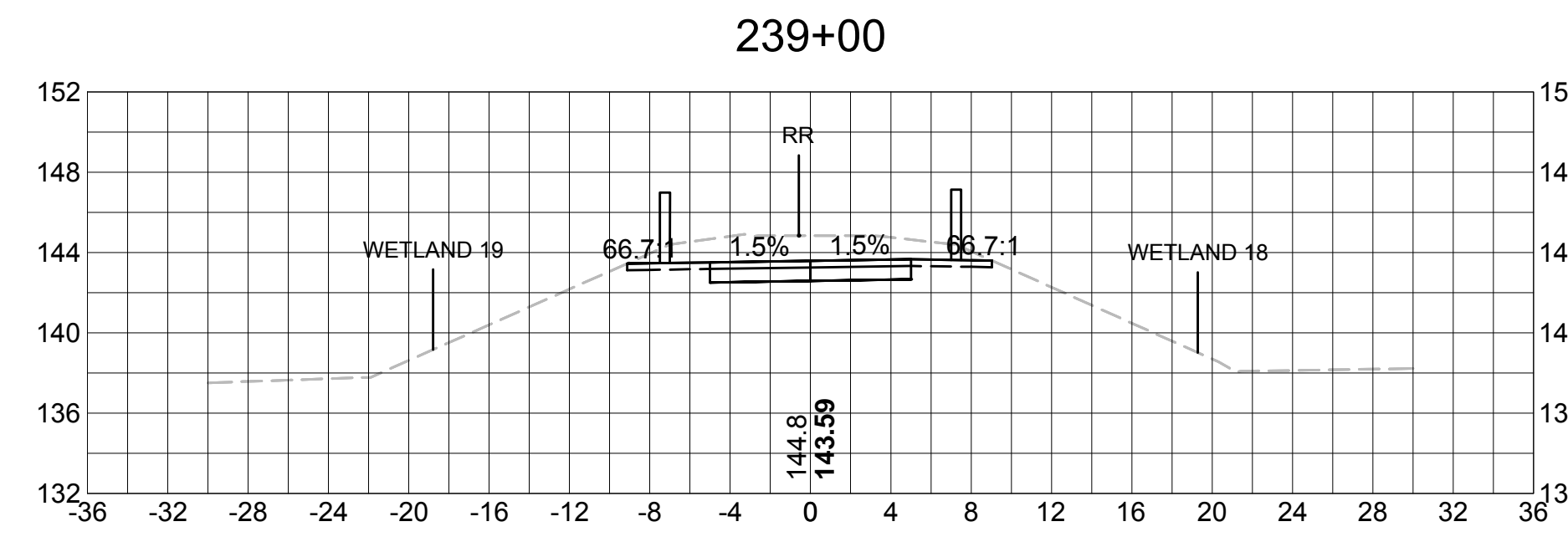
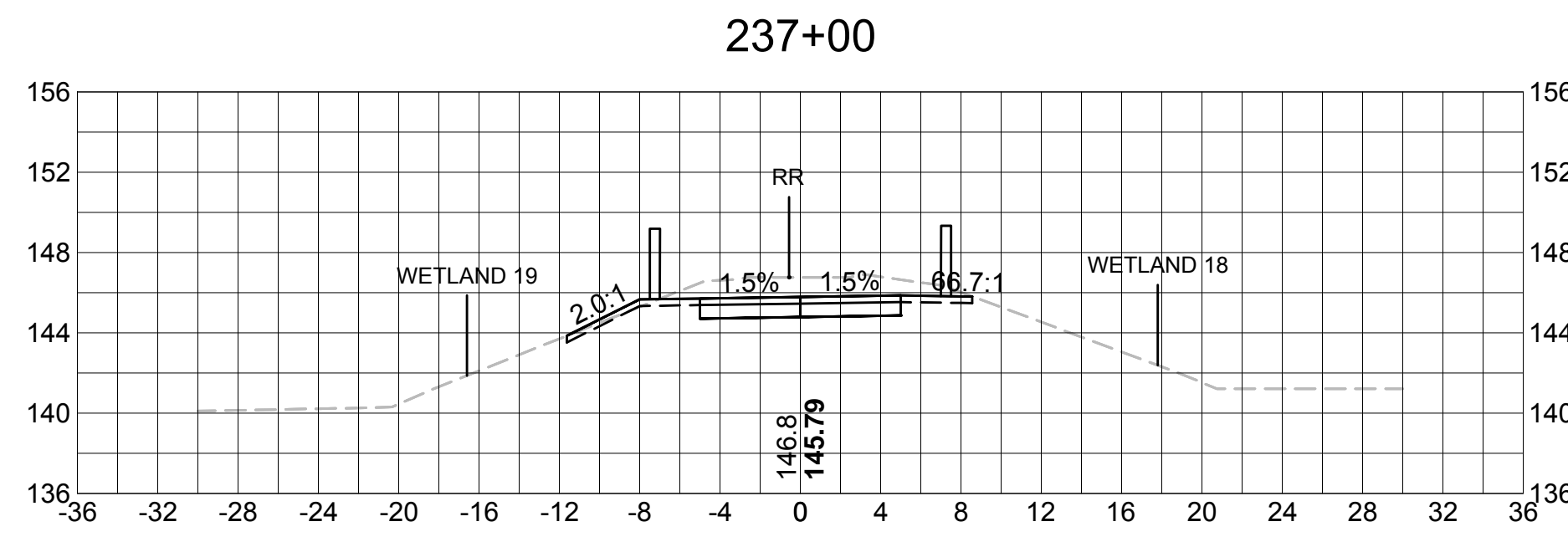
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	104	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



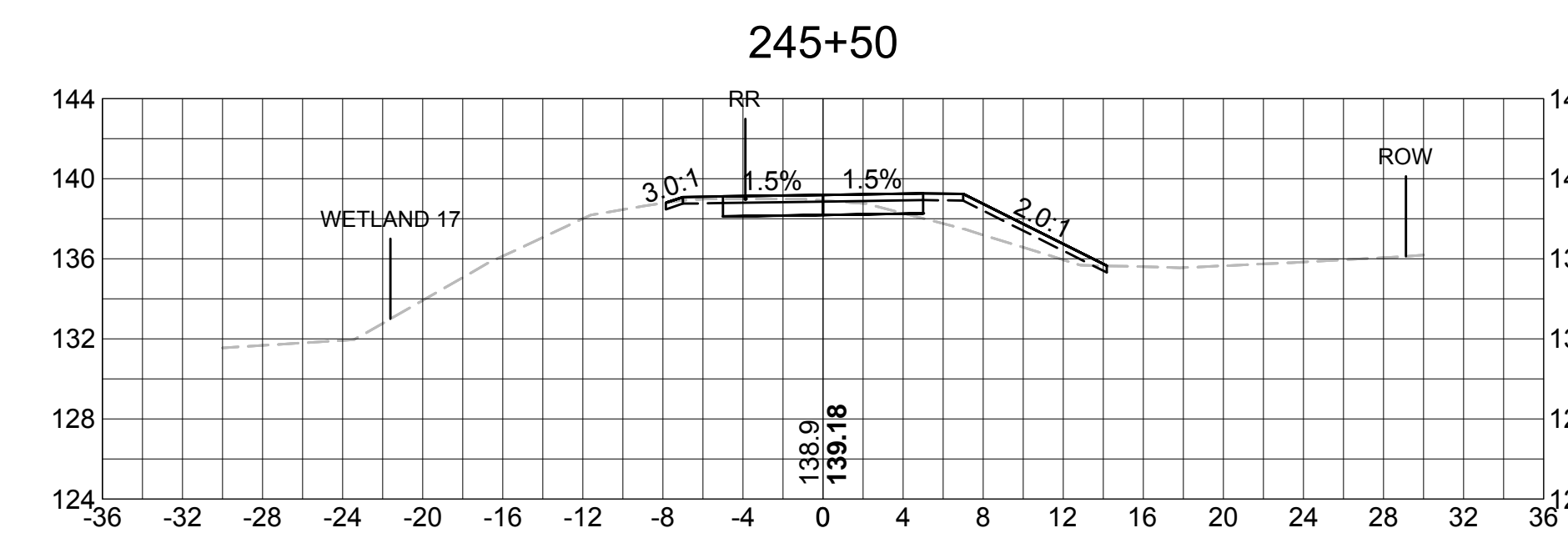
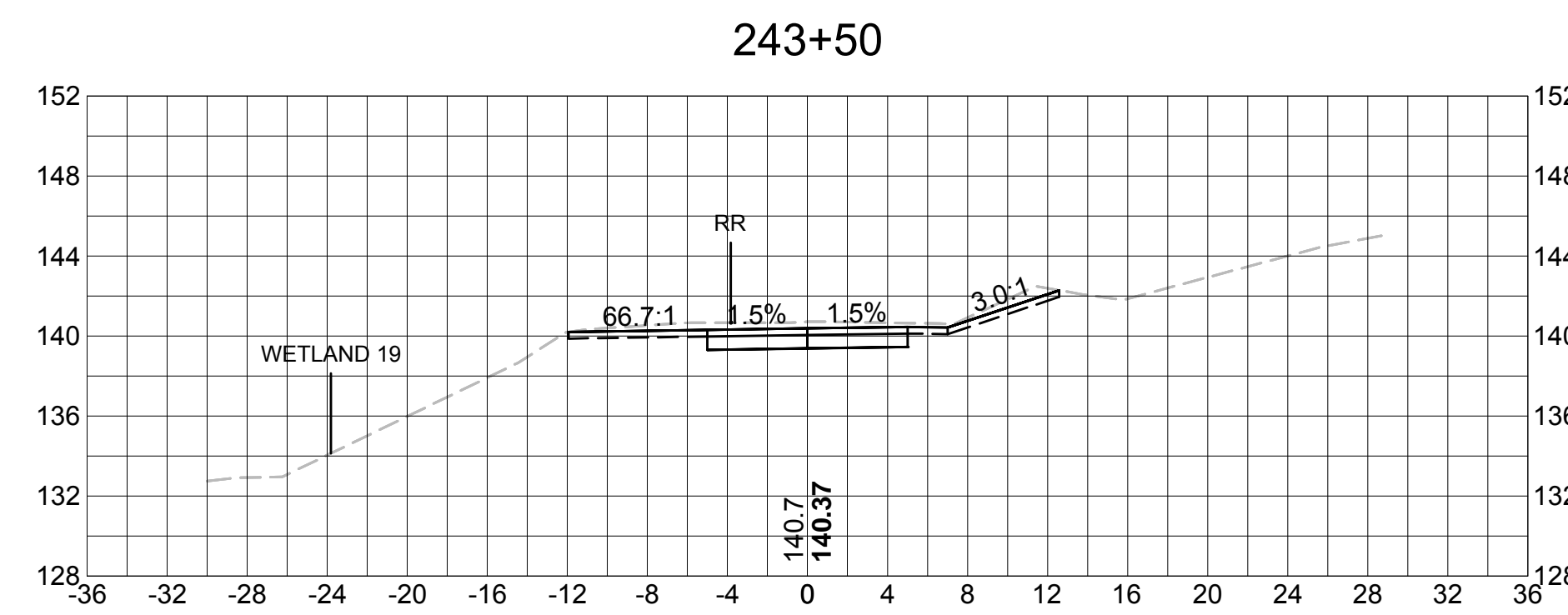
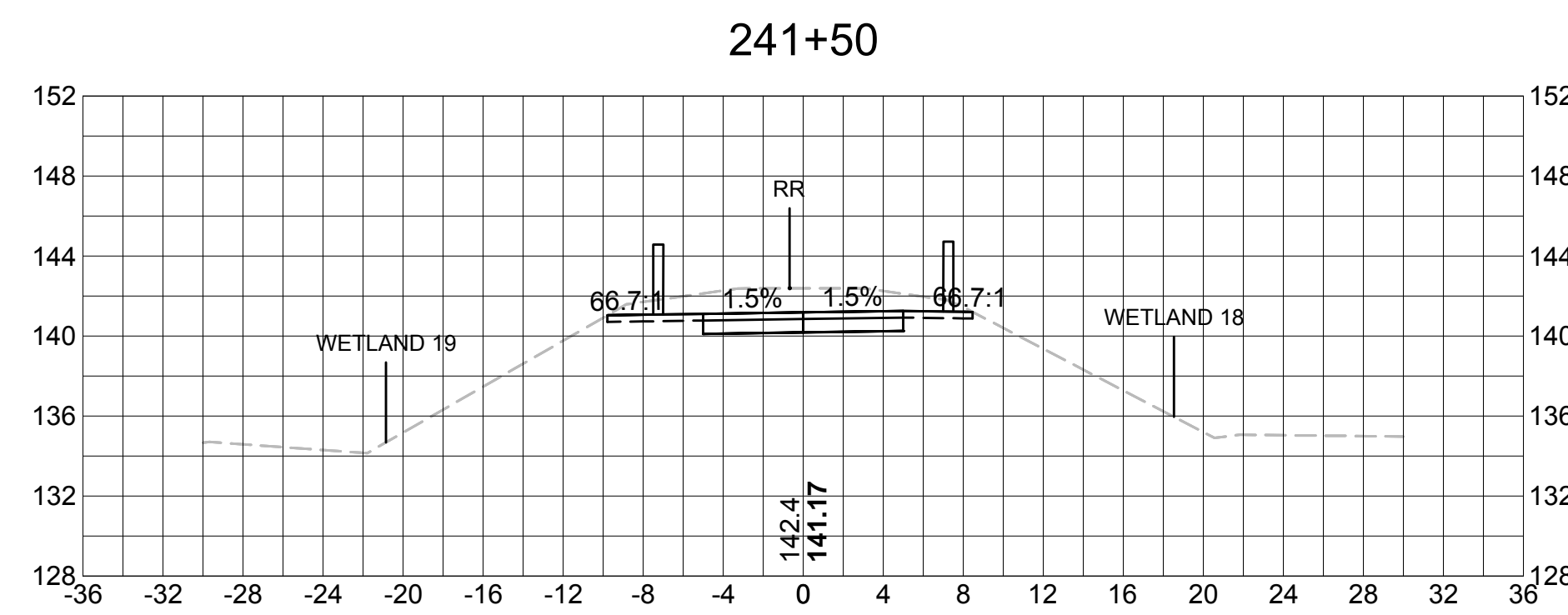
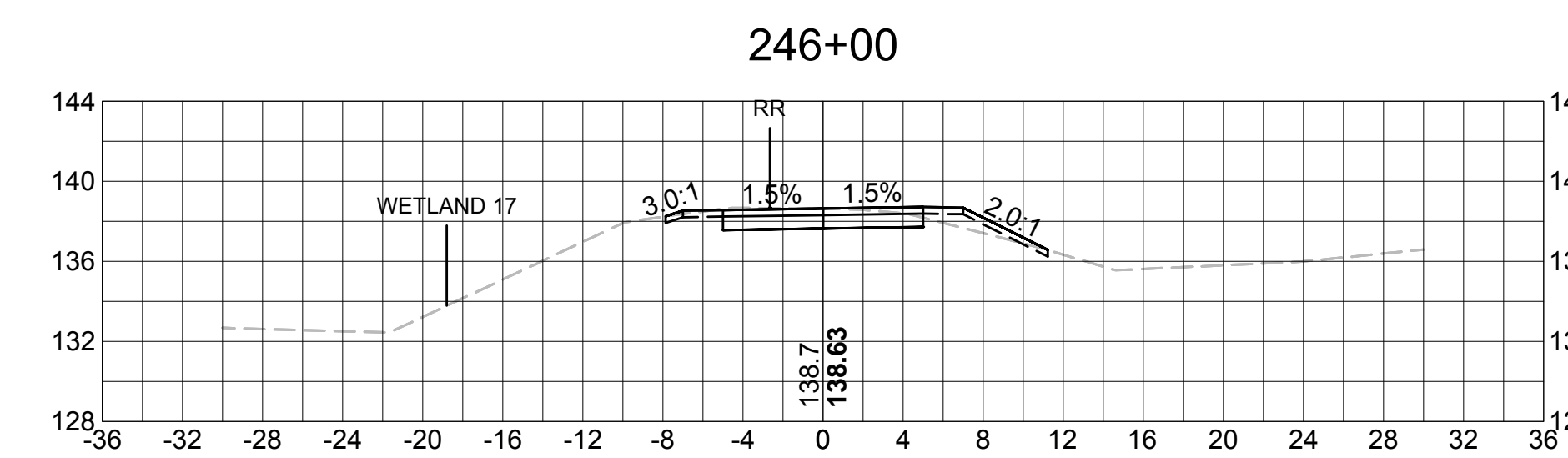
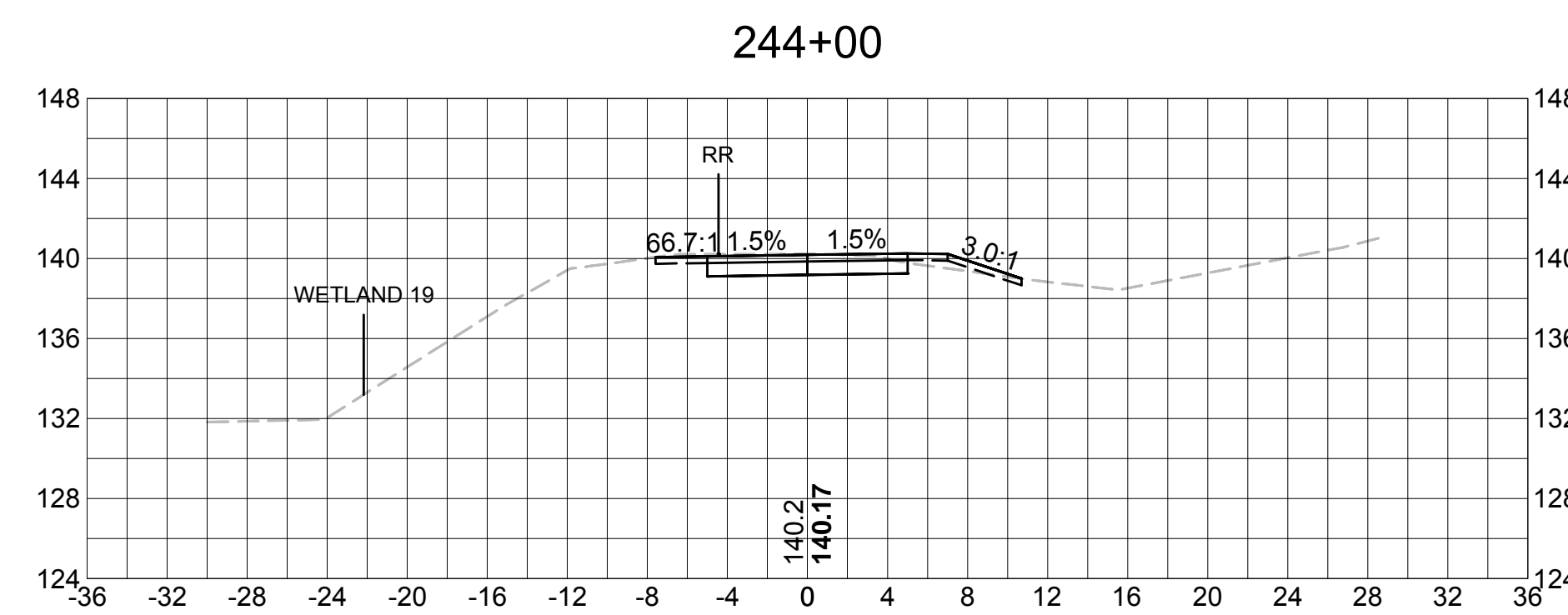
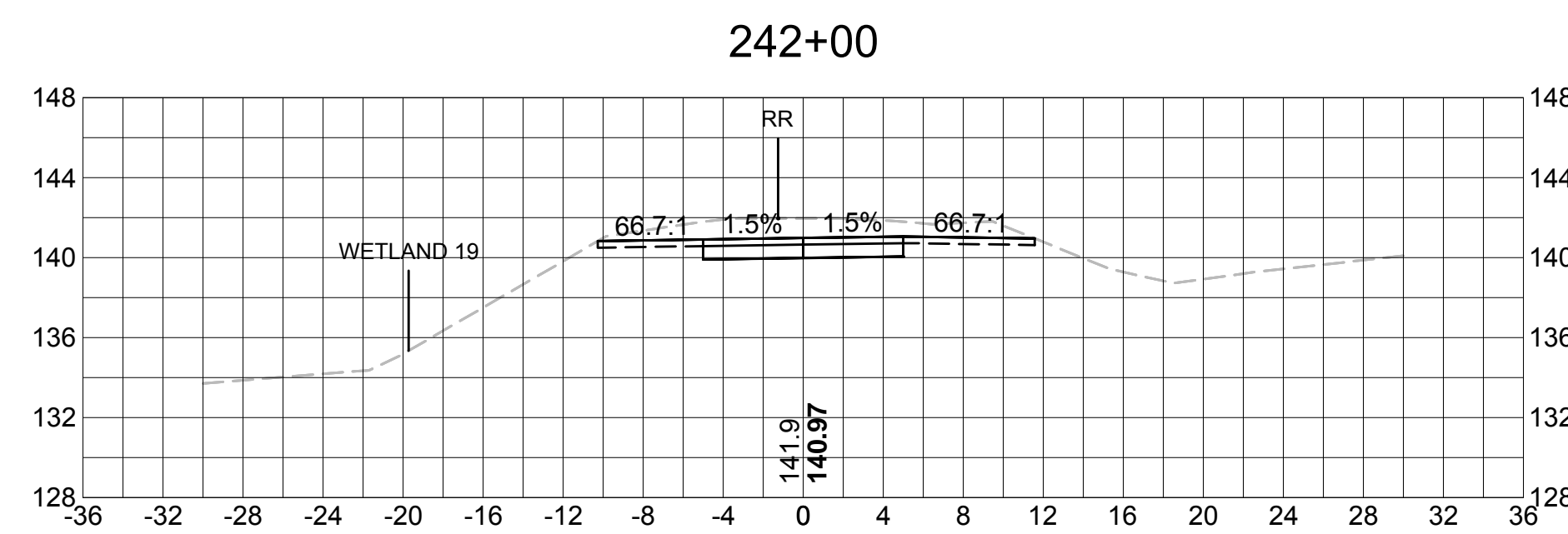
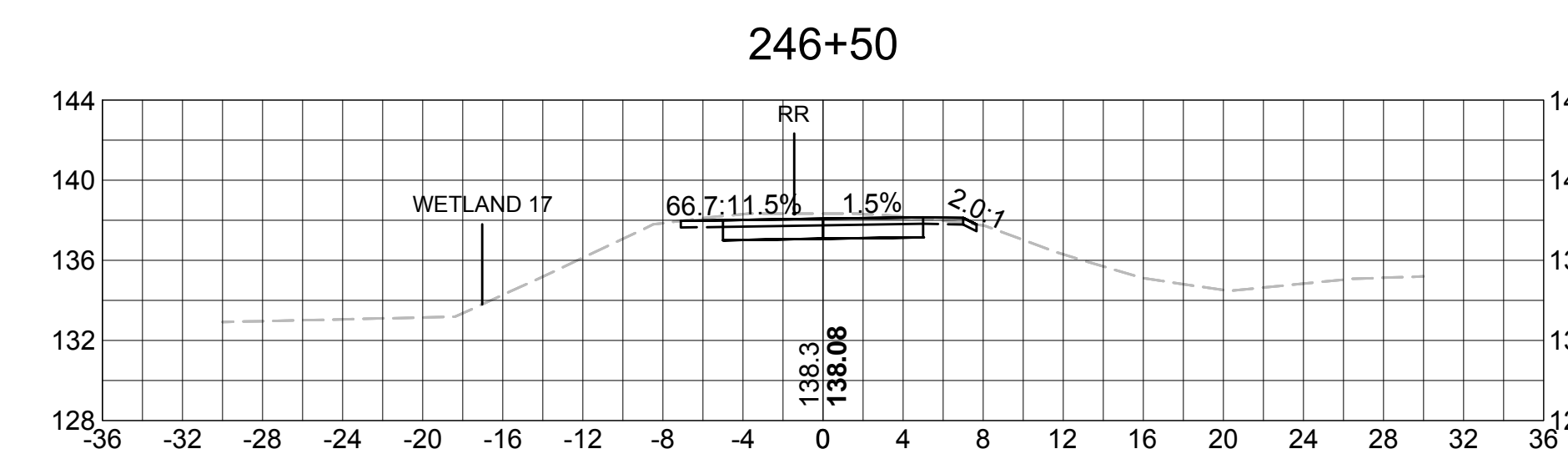
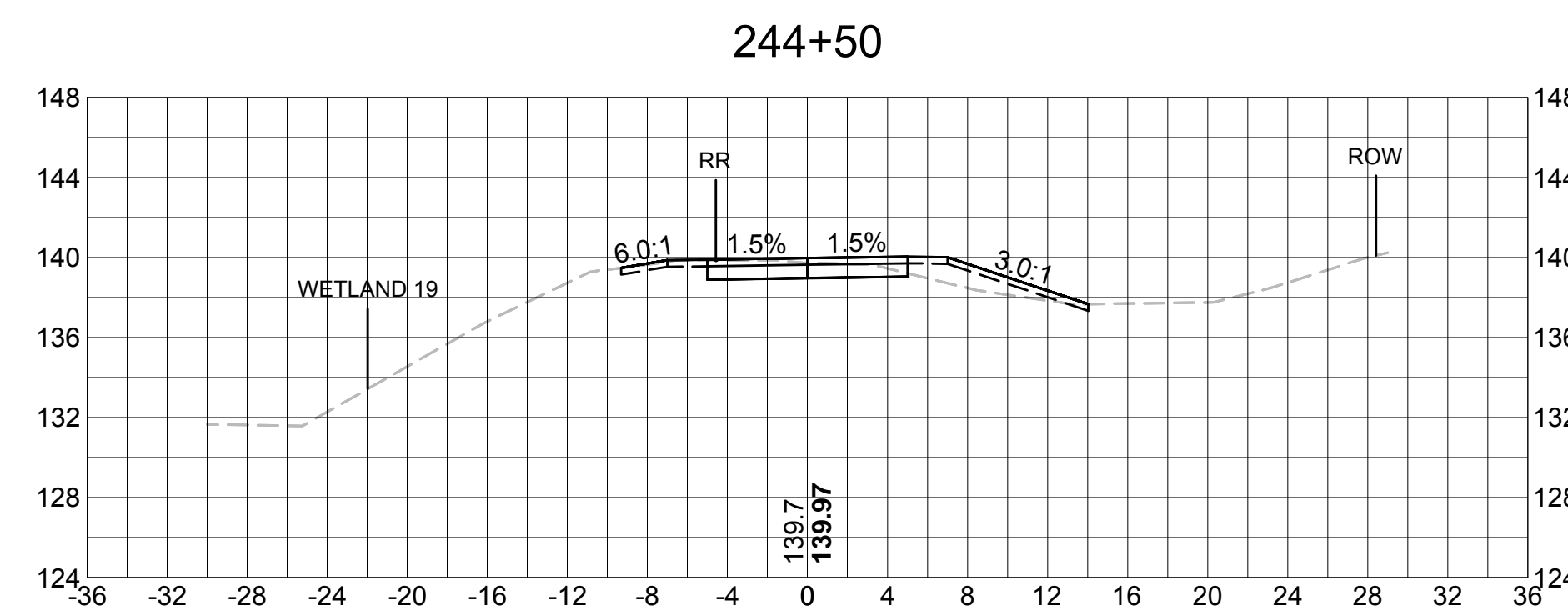
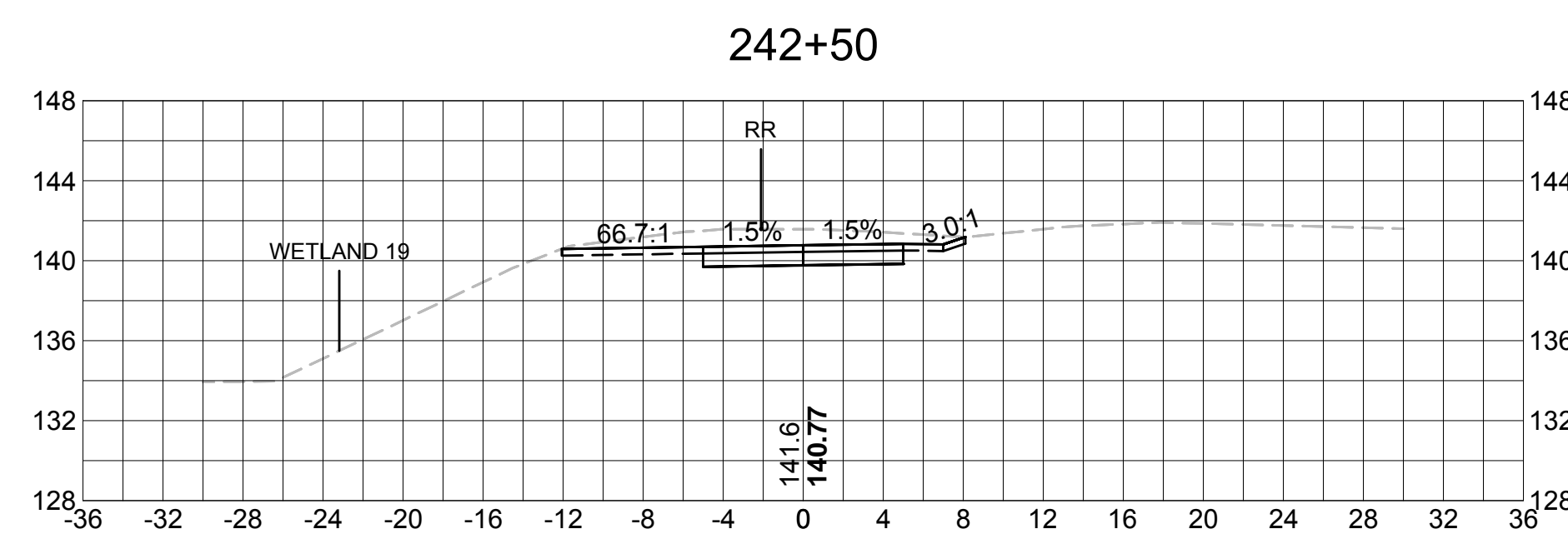
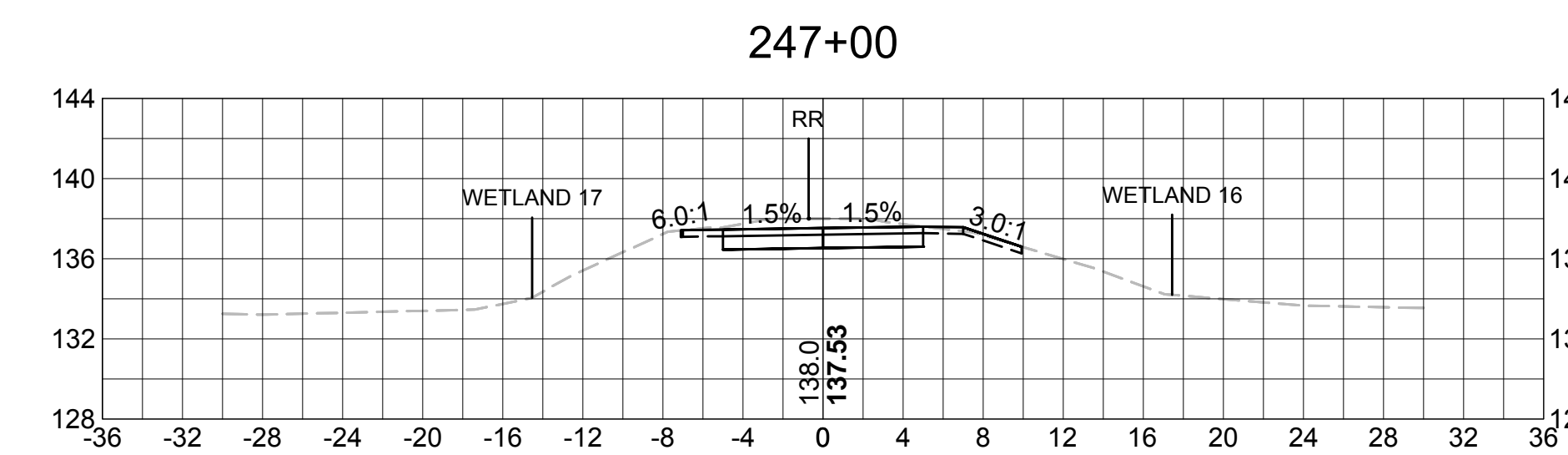
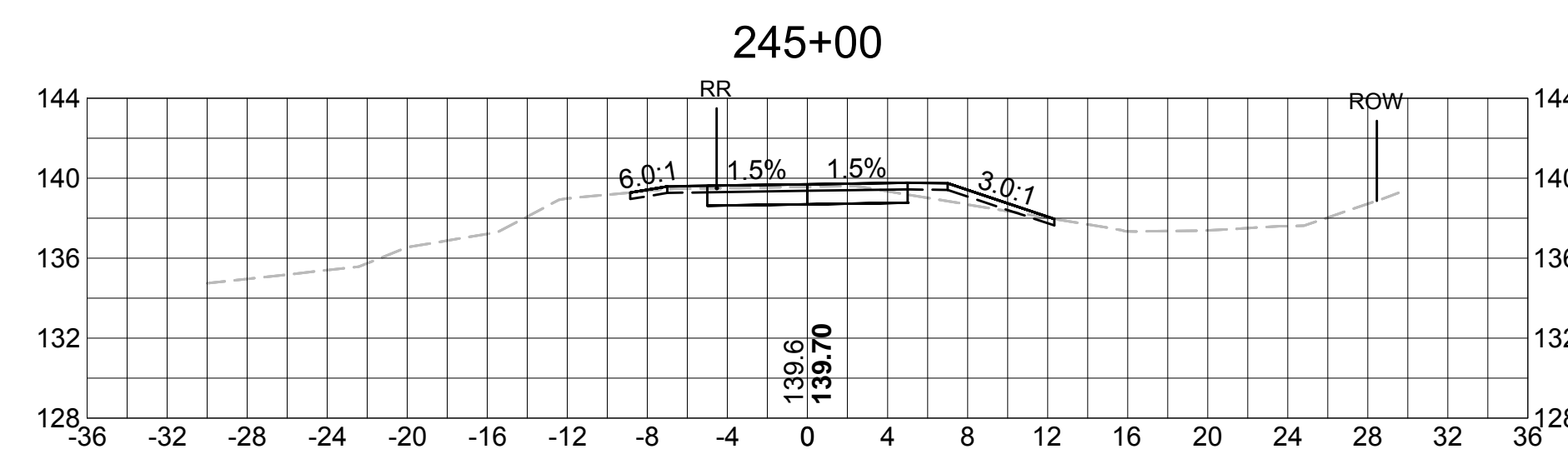
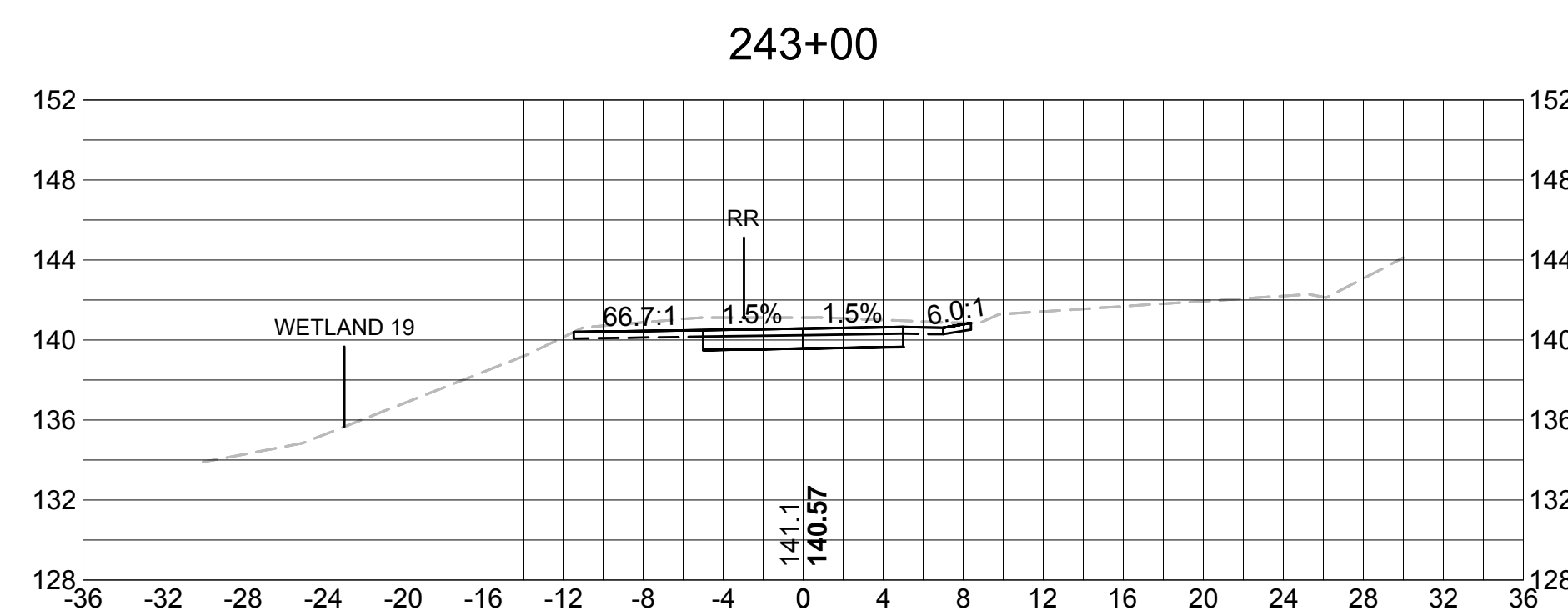
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	105	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	106	123
PROJECT FILE NO. 608164			

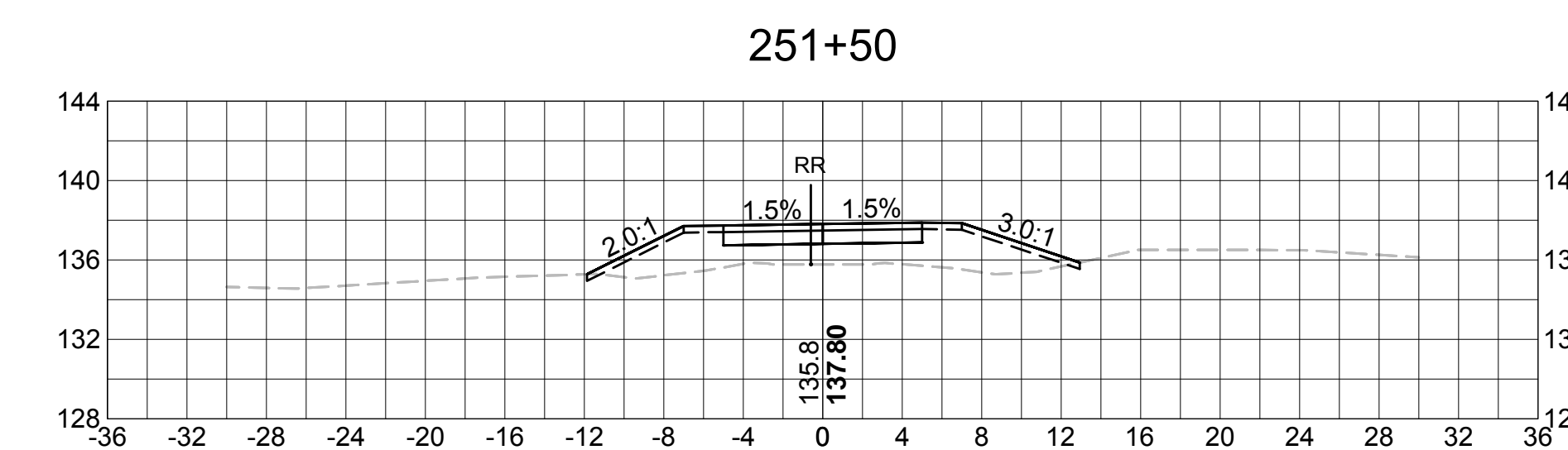
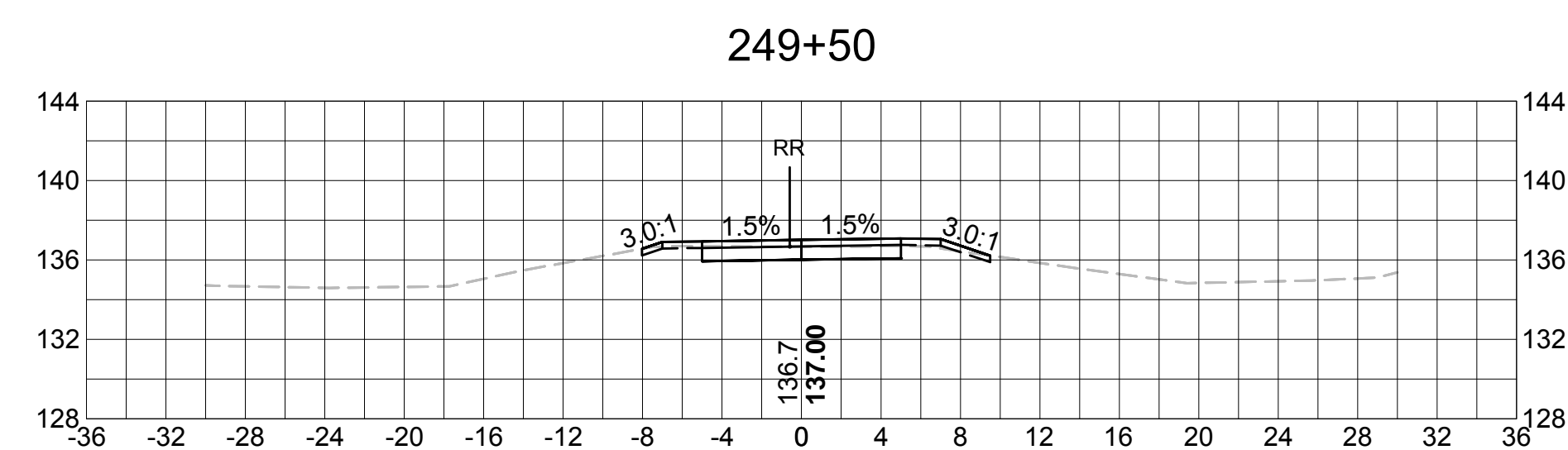
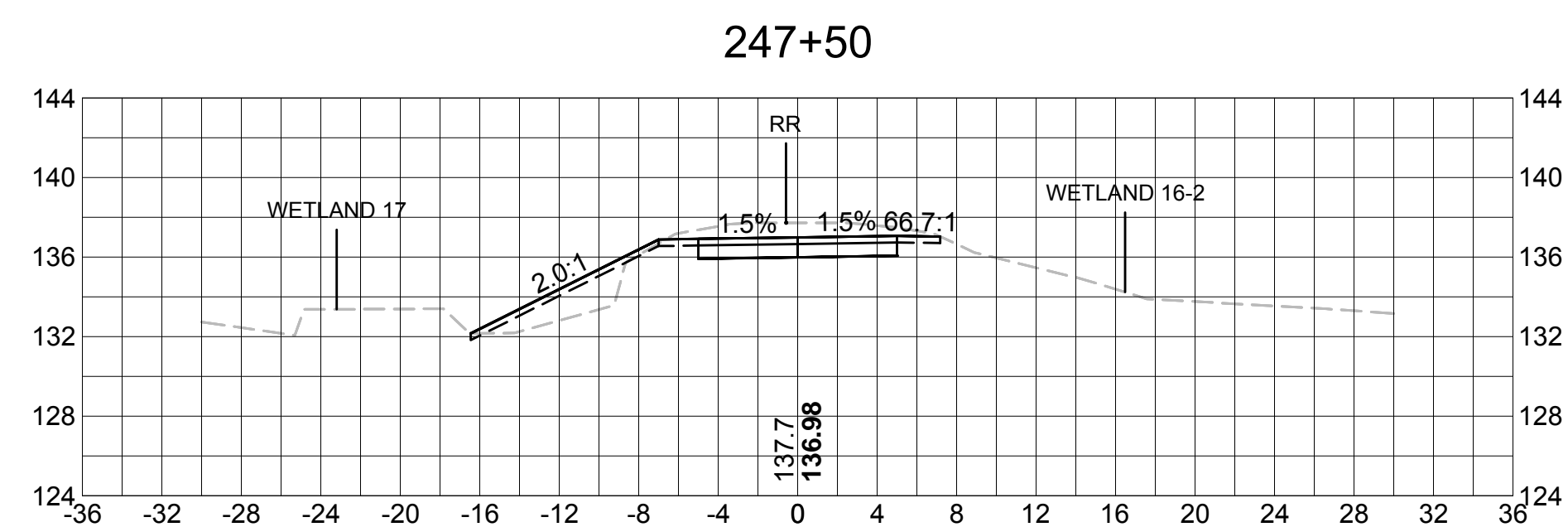
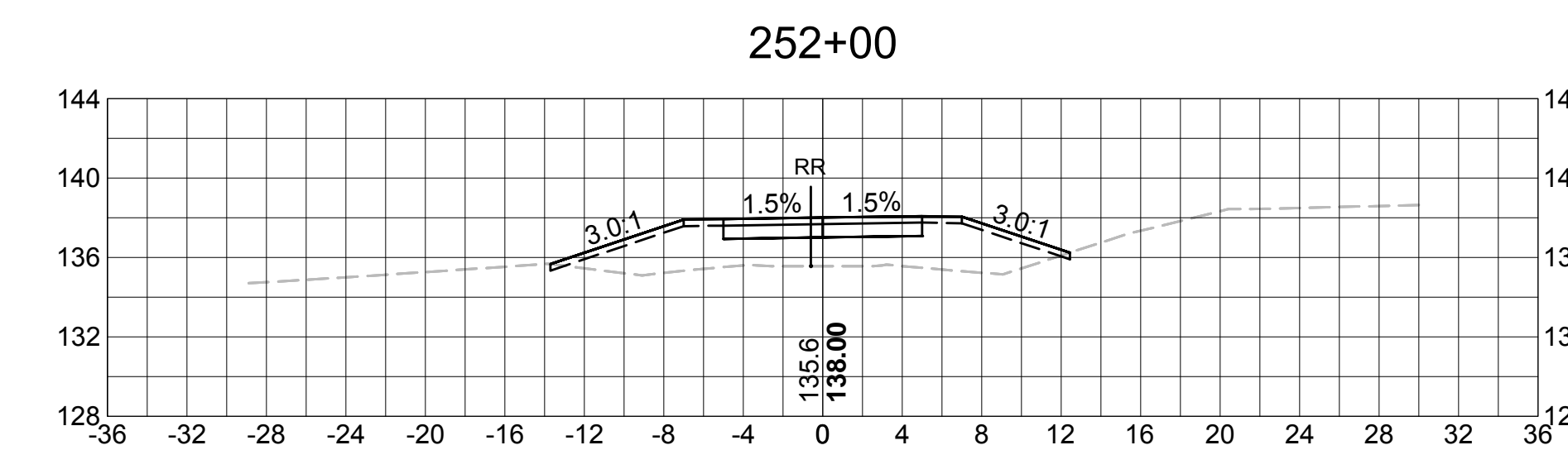
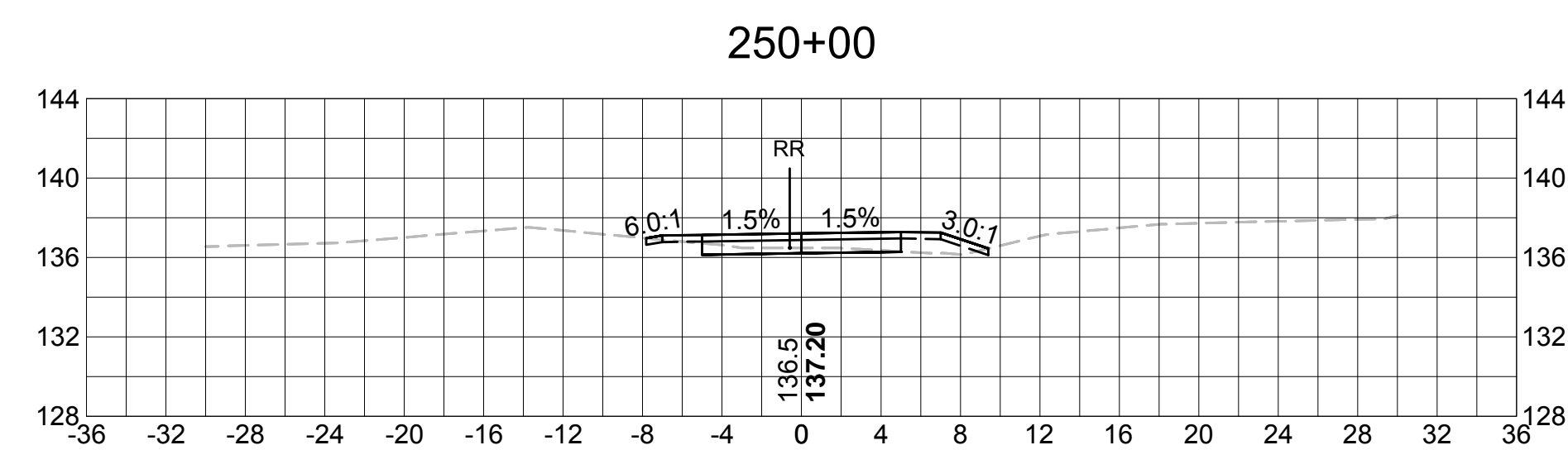
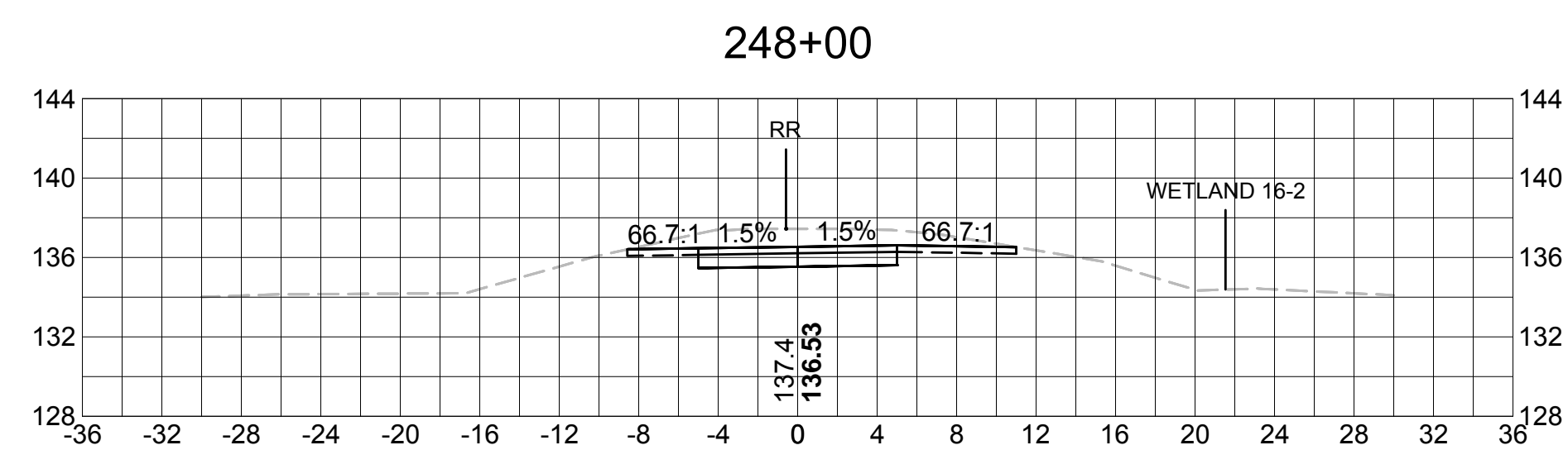
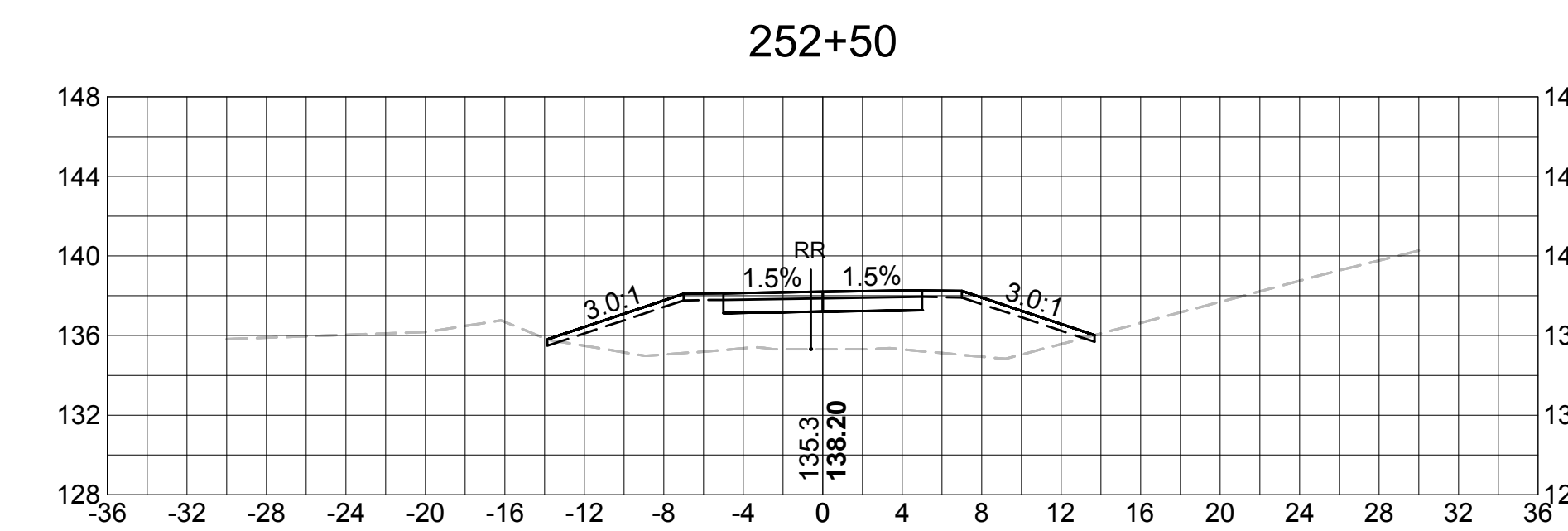
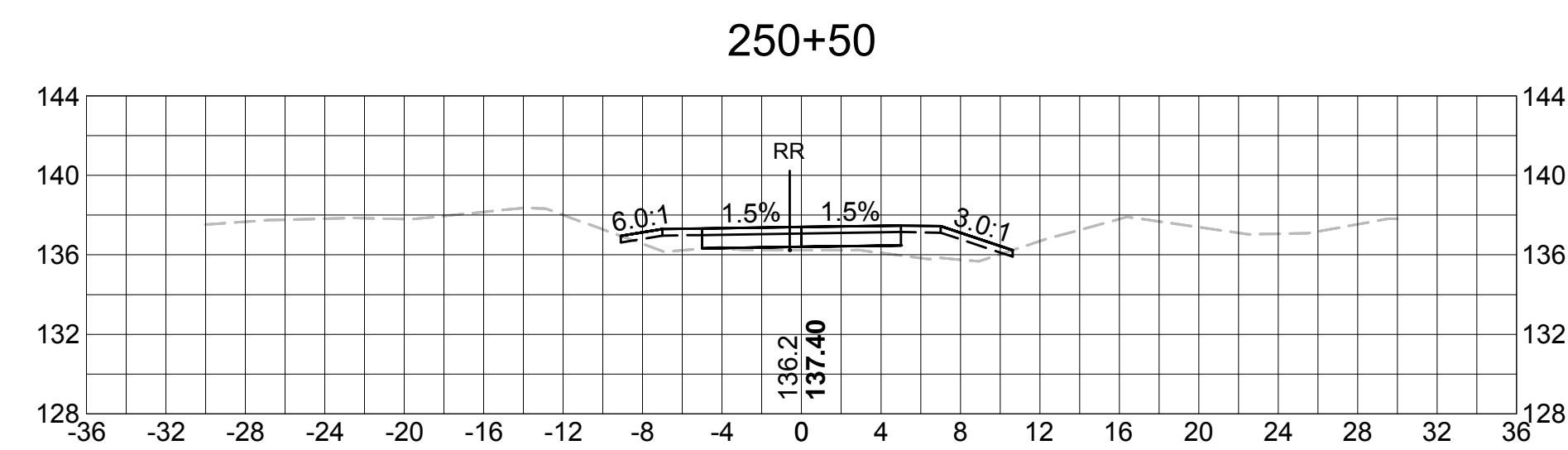
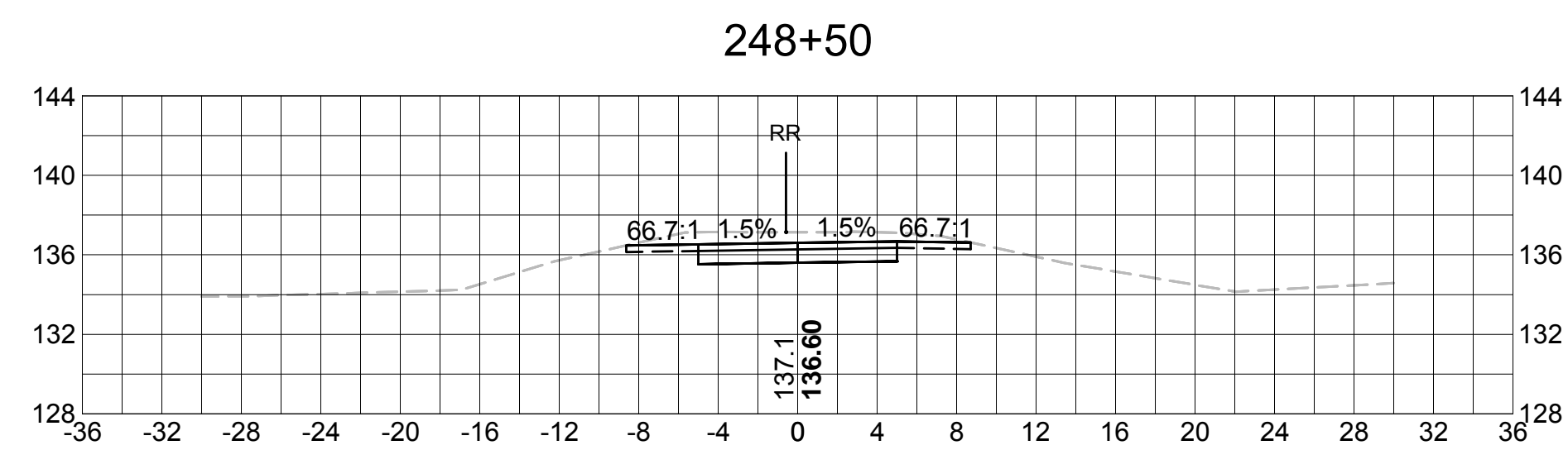
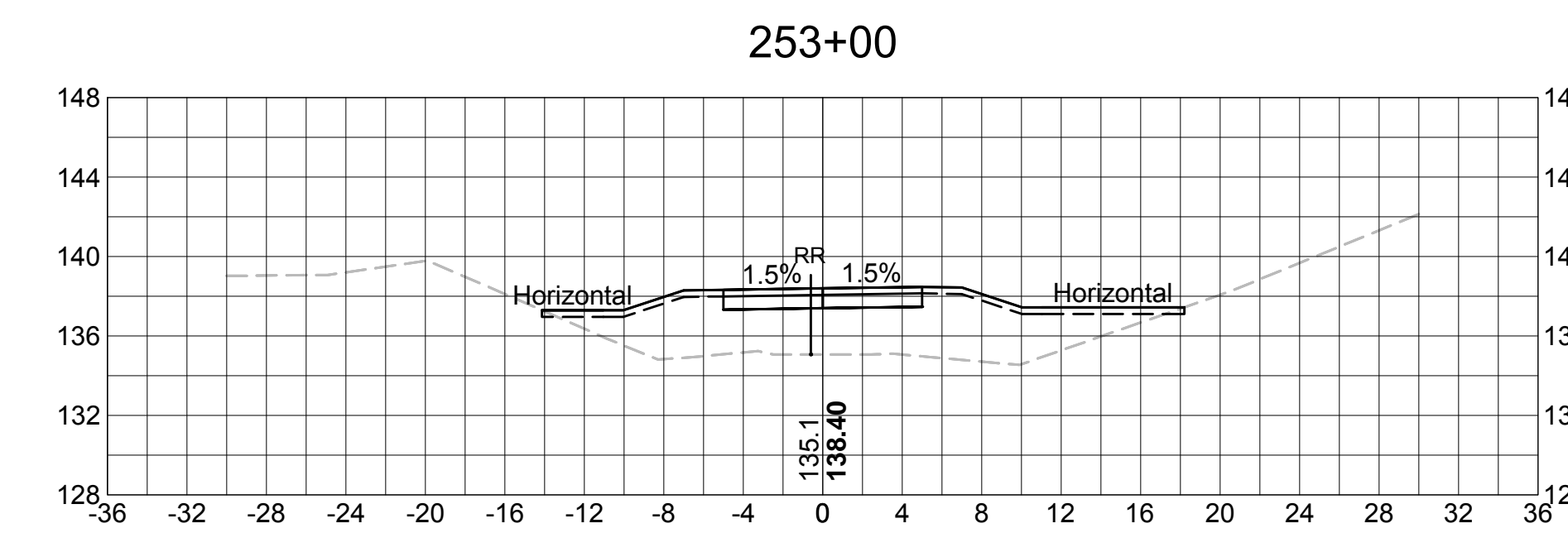
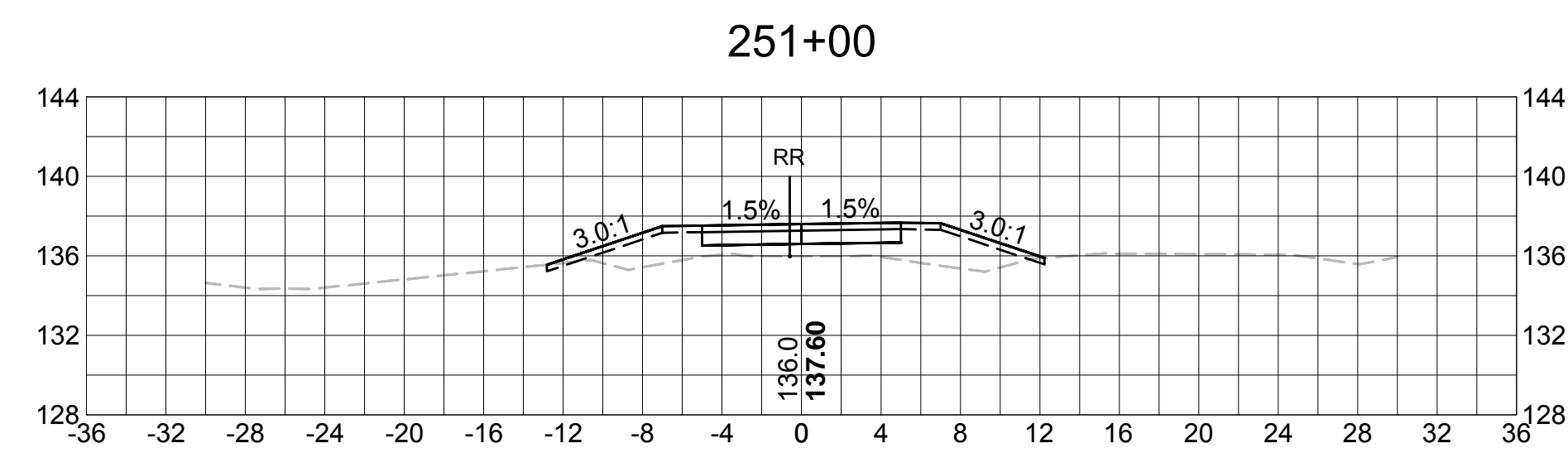
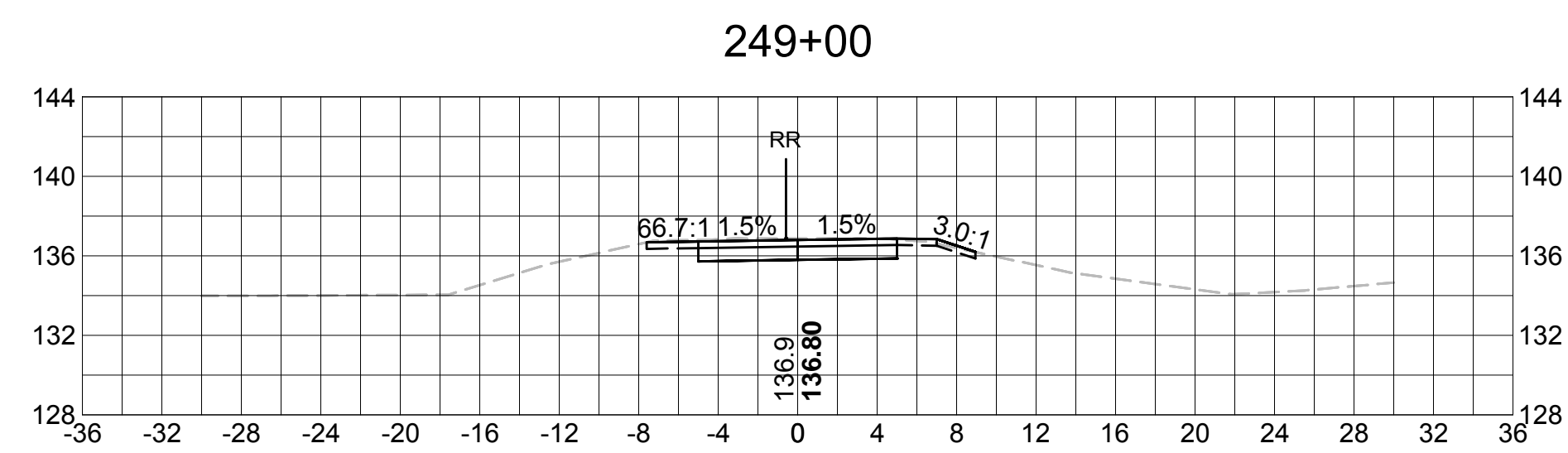
CROSS SECTIONS



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	107	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

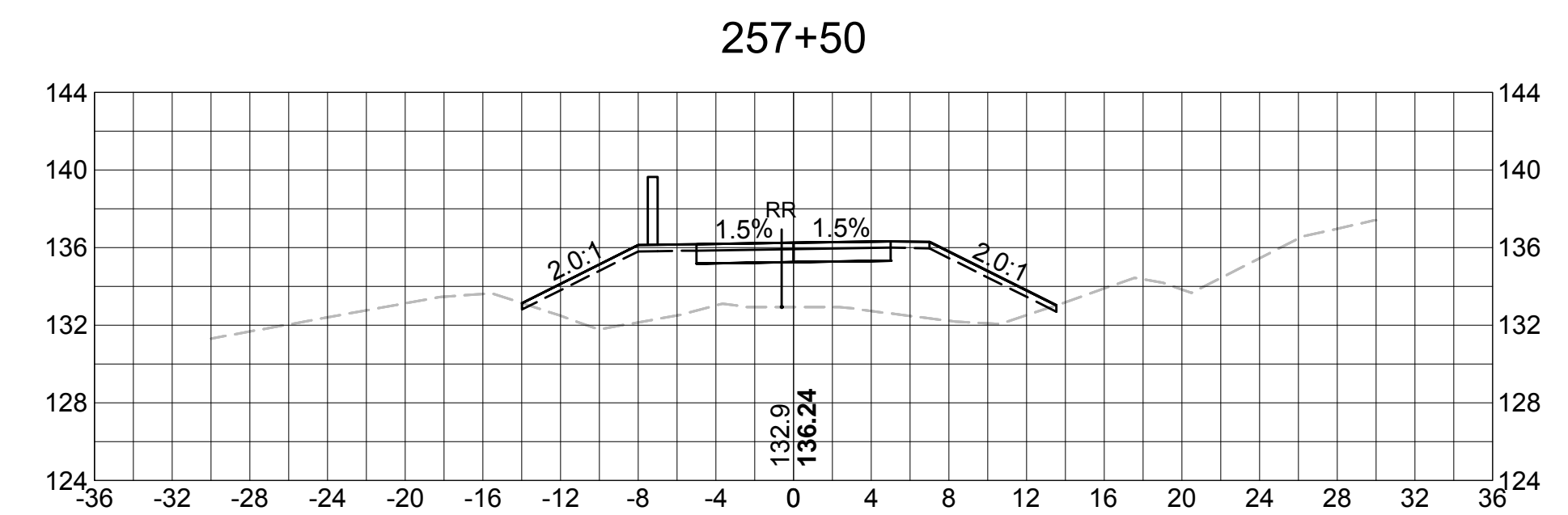
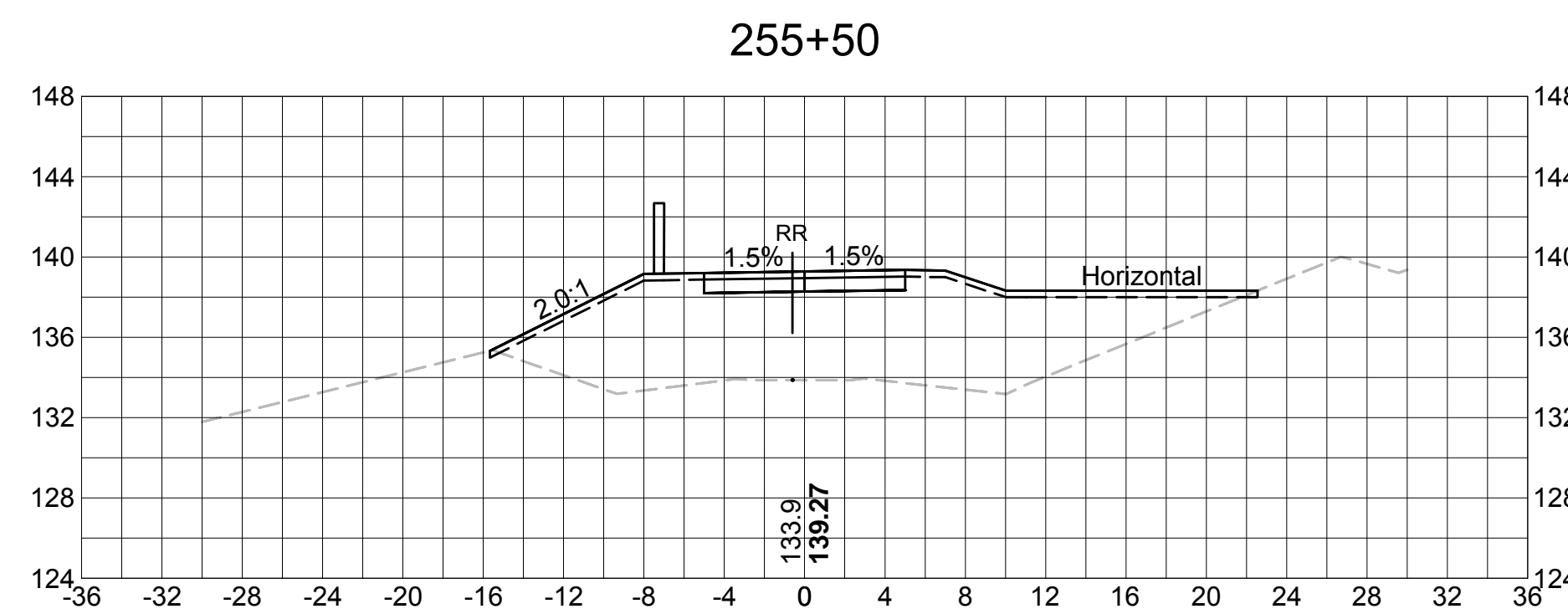
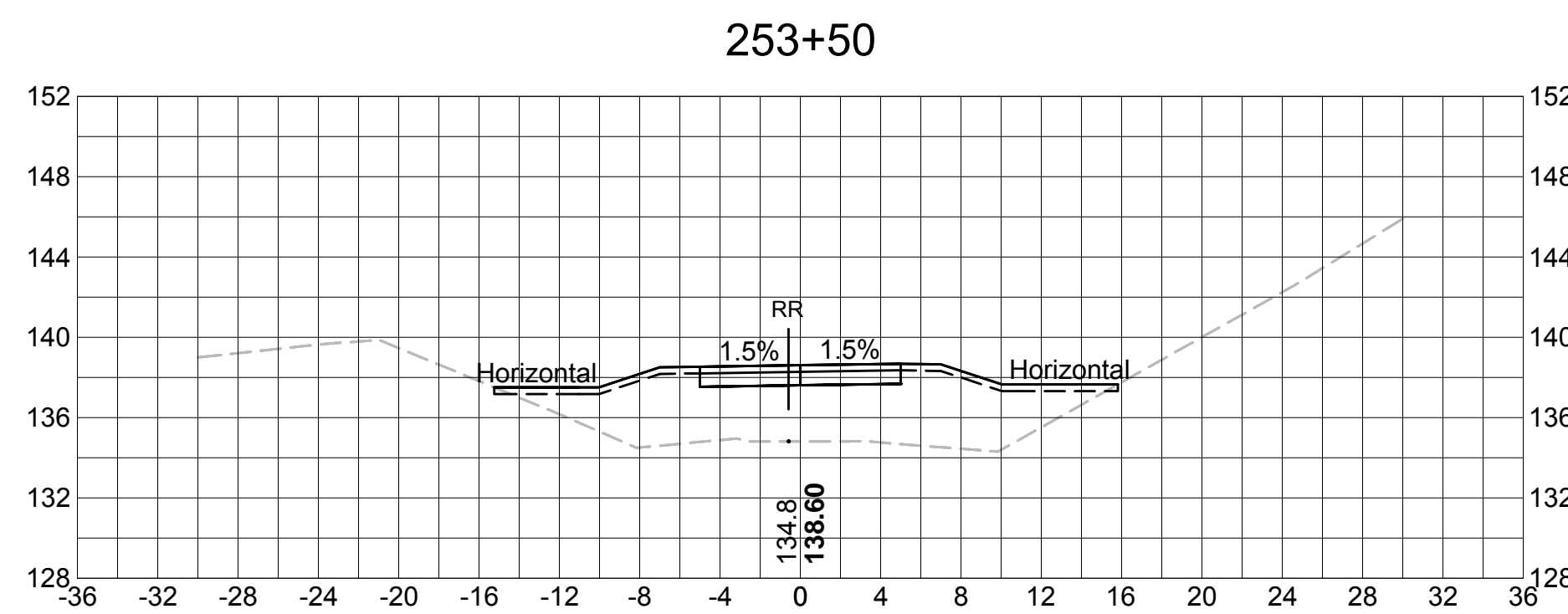
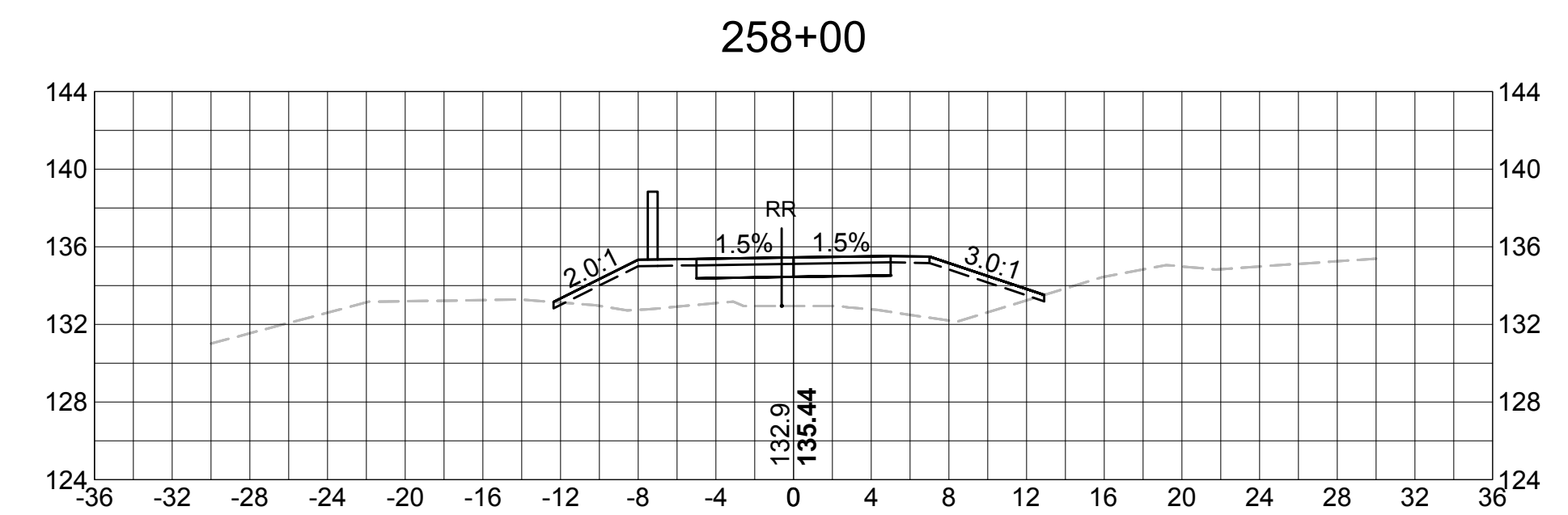
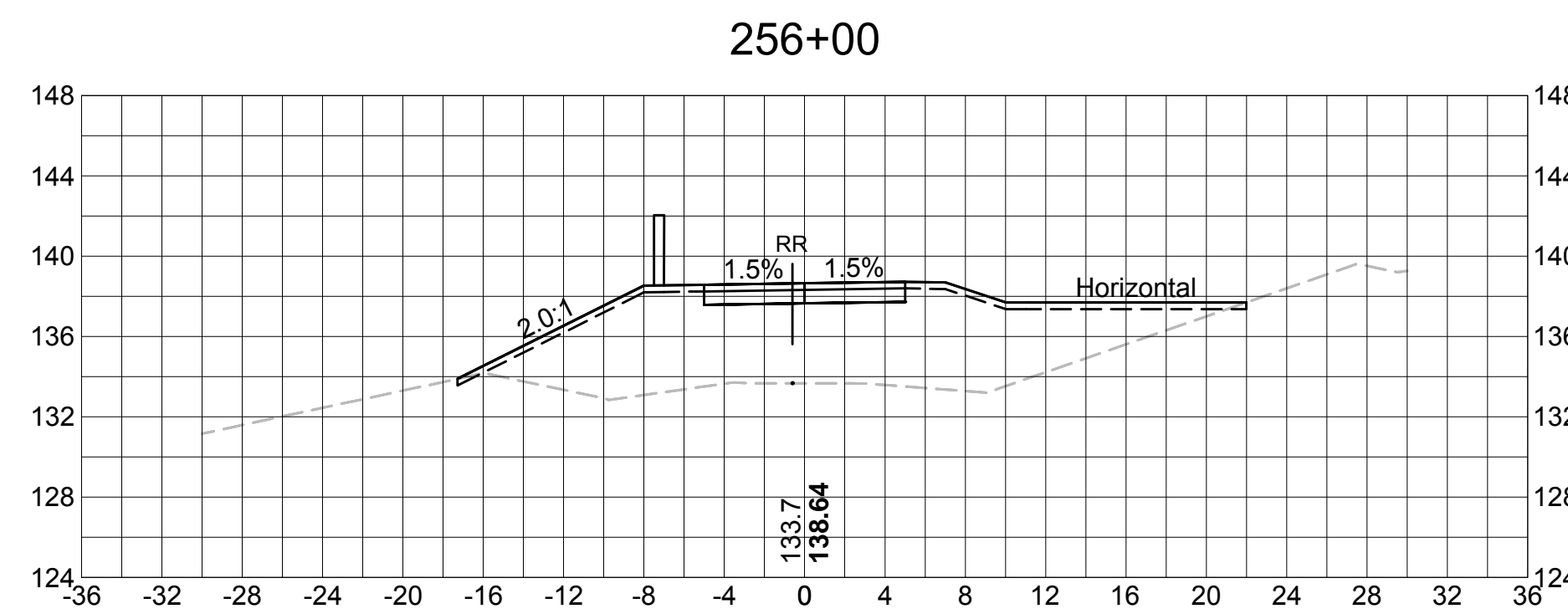
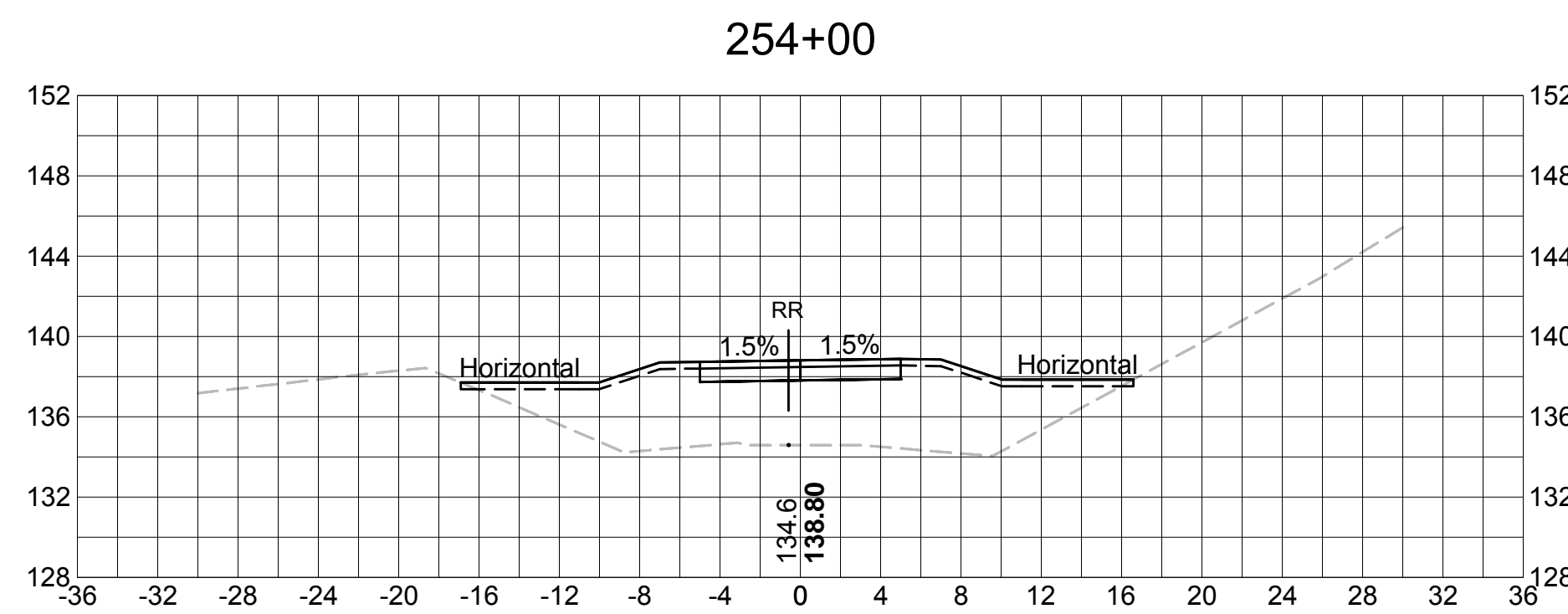
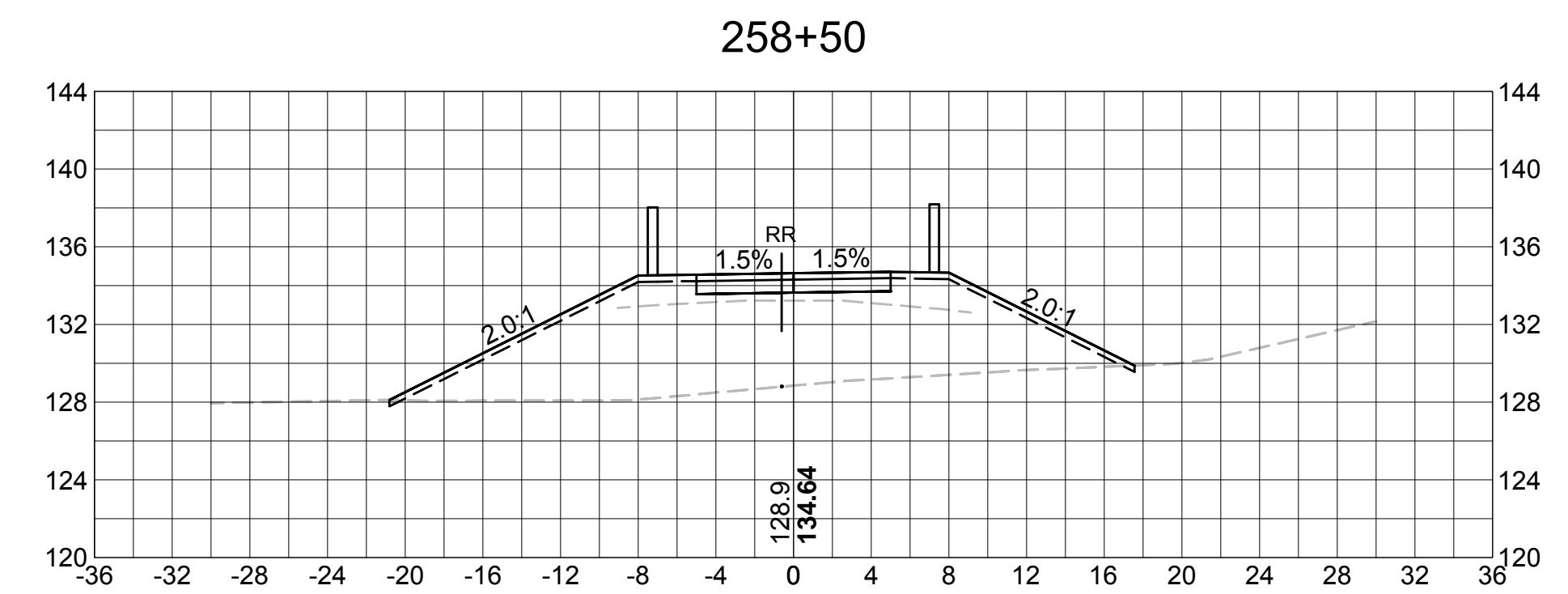
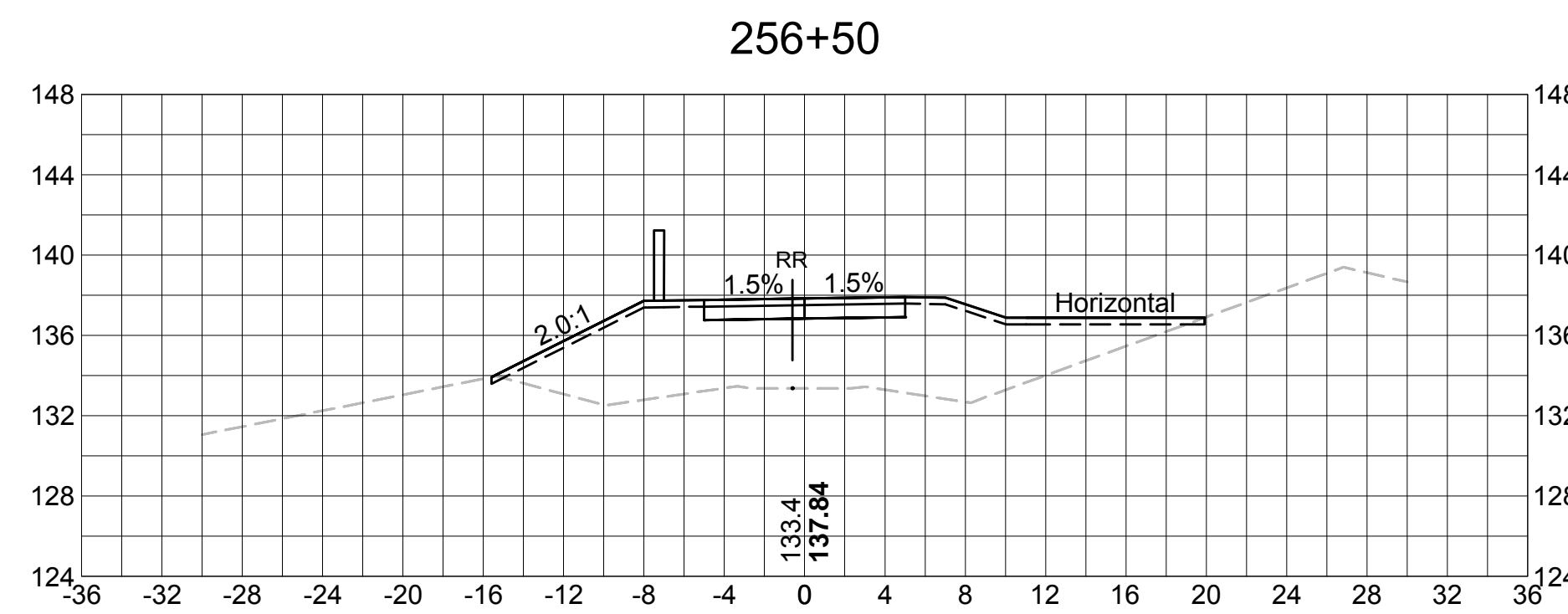
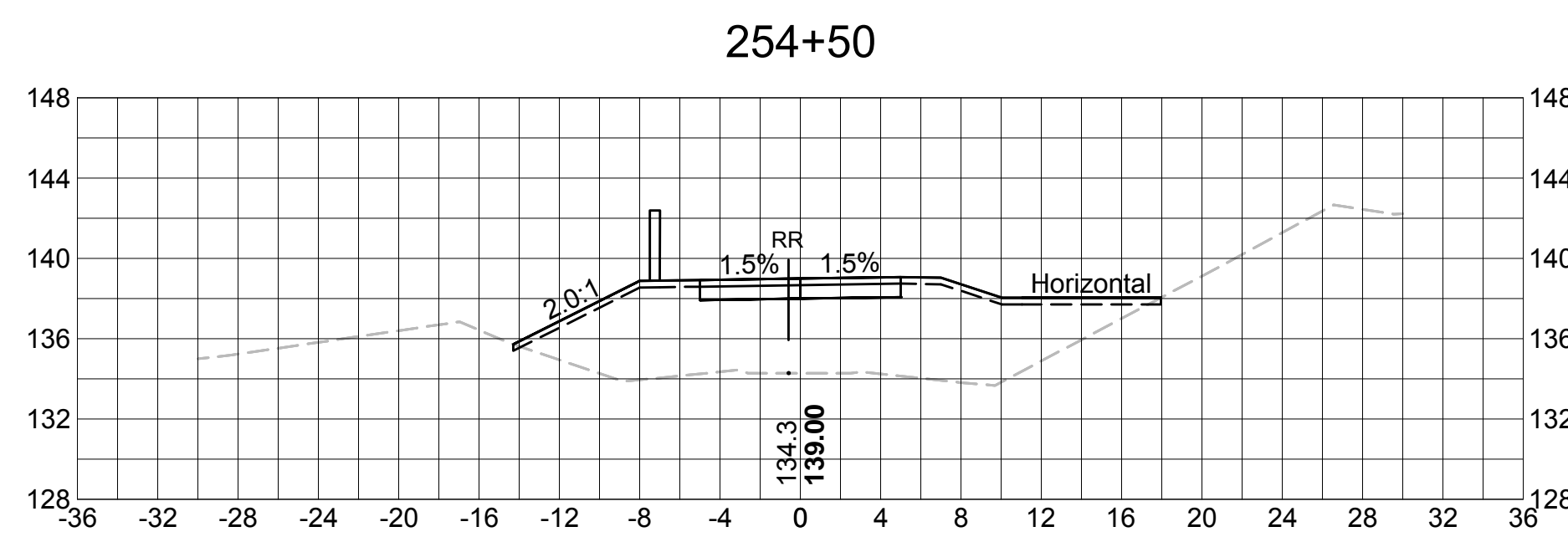
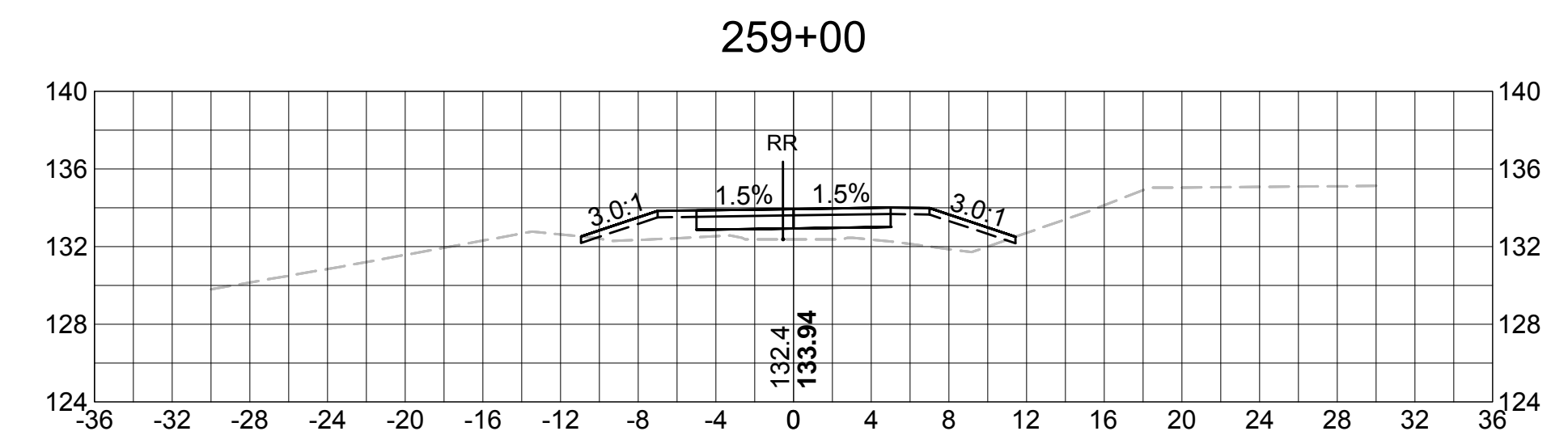
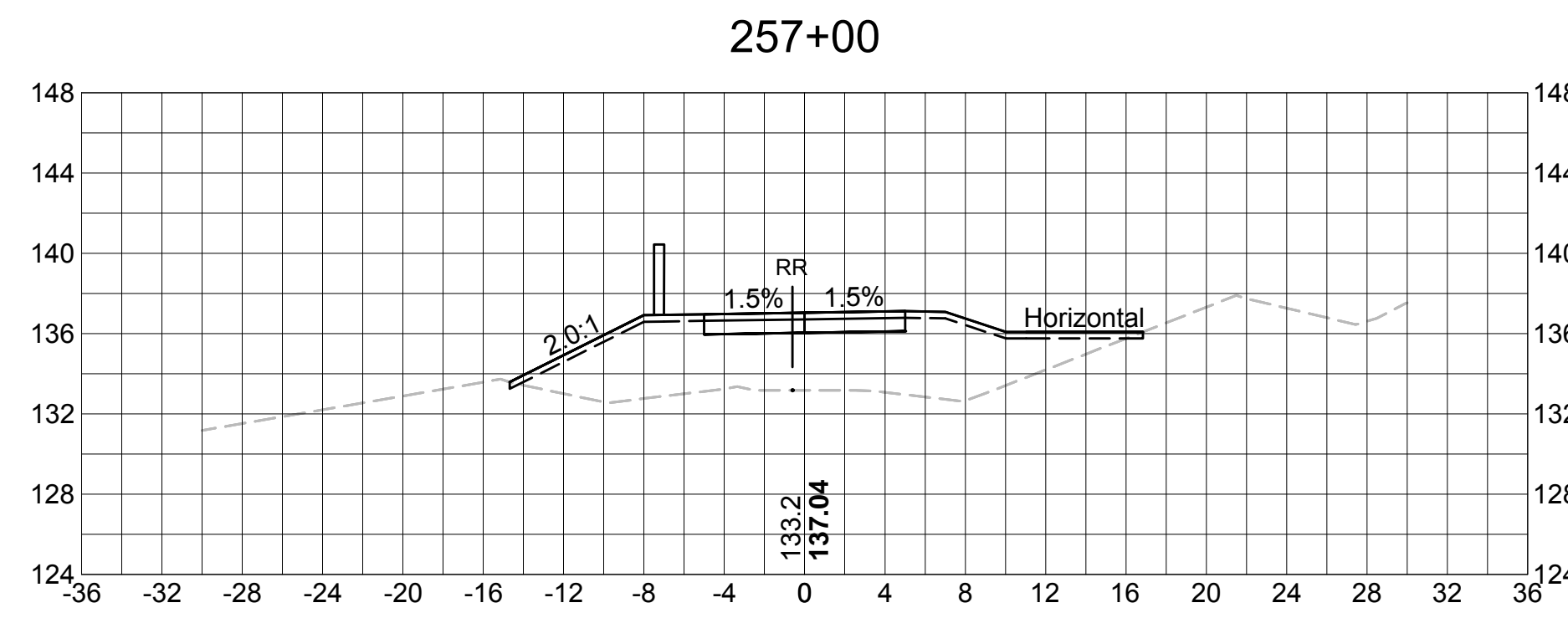
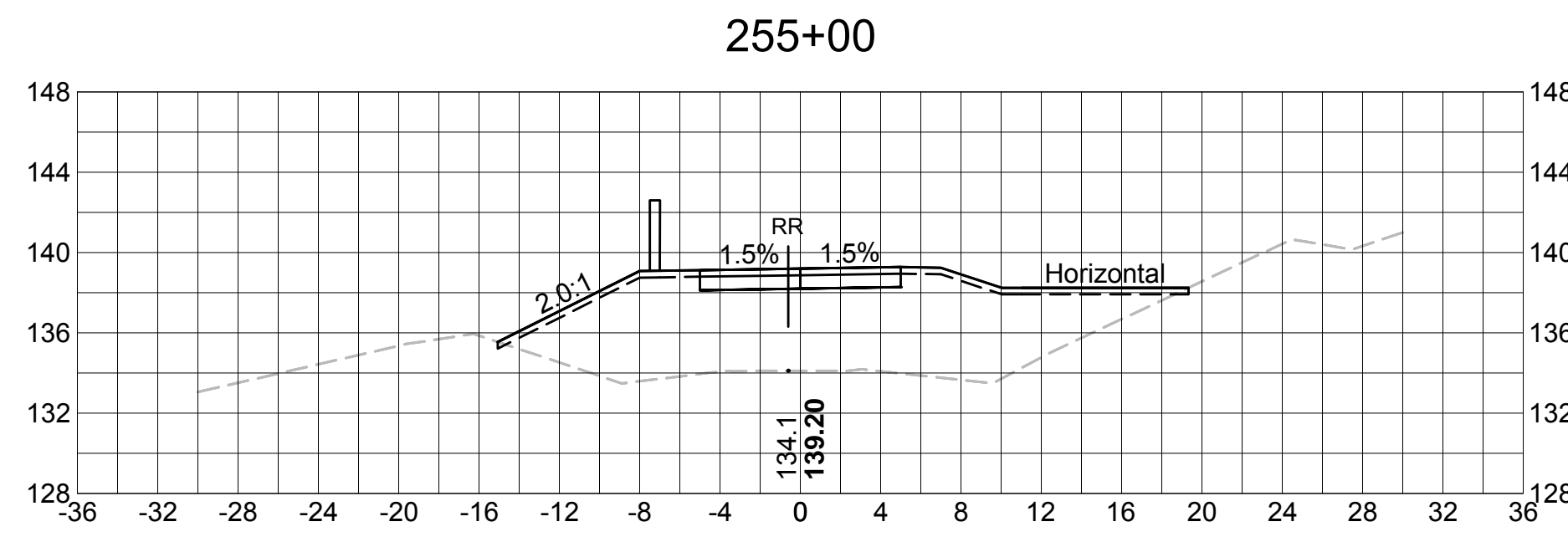
608164_HDXSEC-3) DWG 5-Sep-2017



SUDBURY
BRUCE FREEMAN RAIL TRAIL

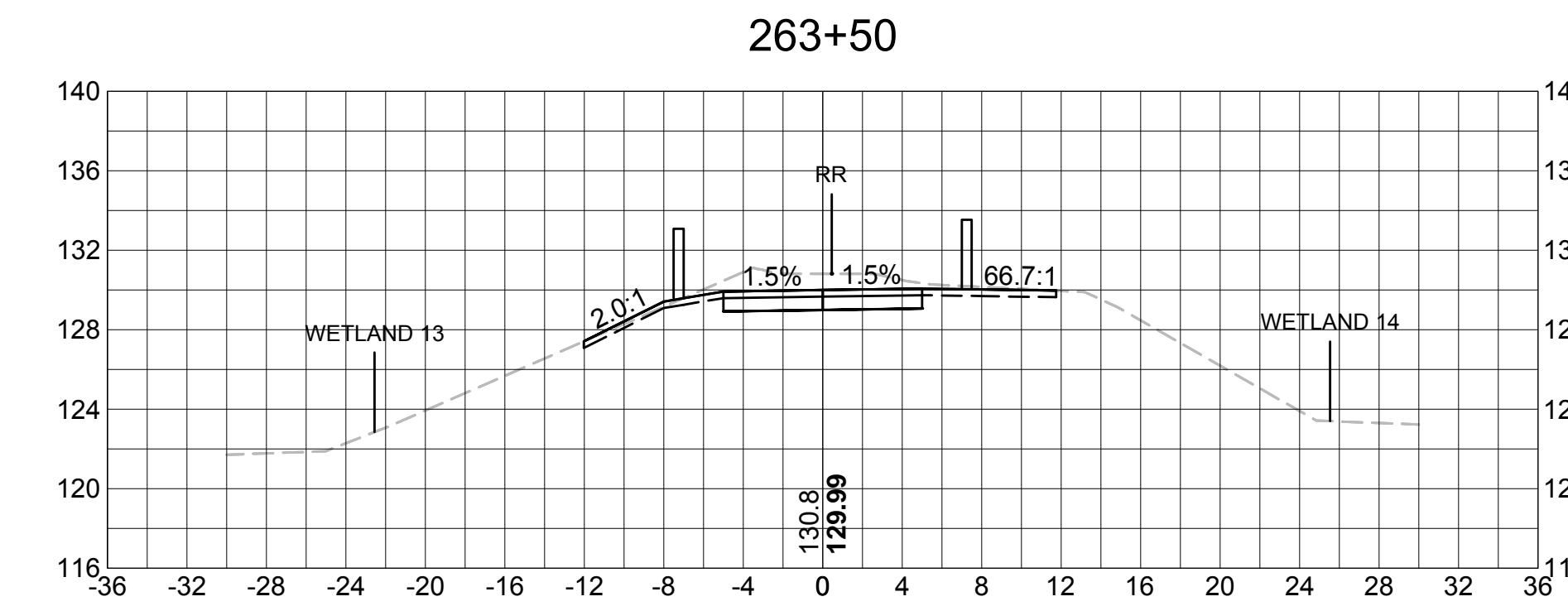
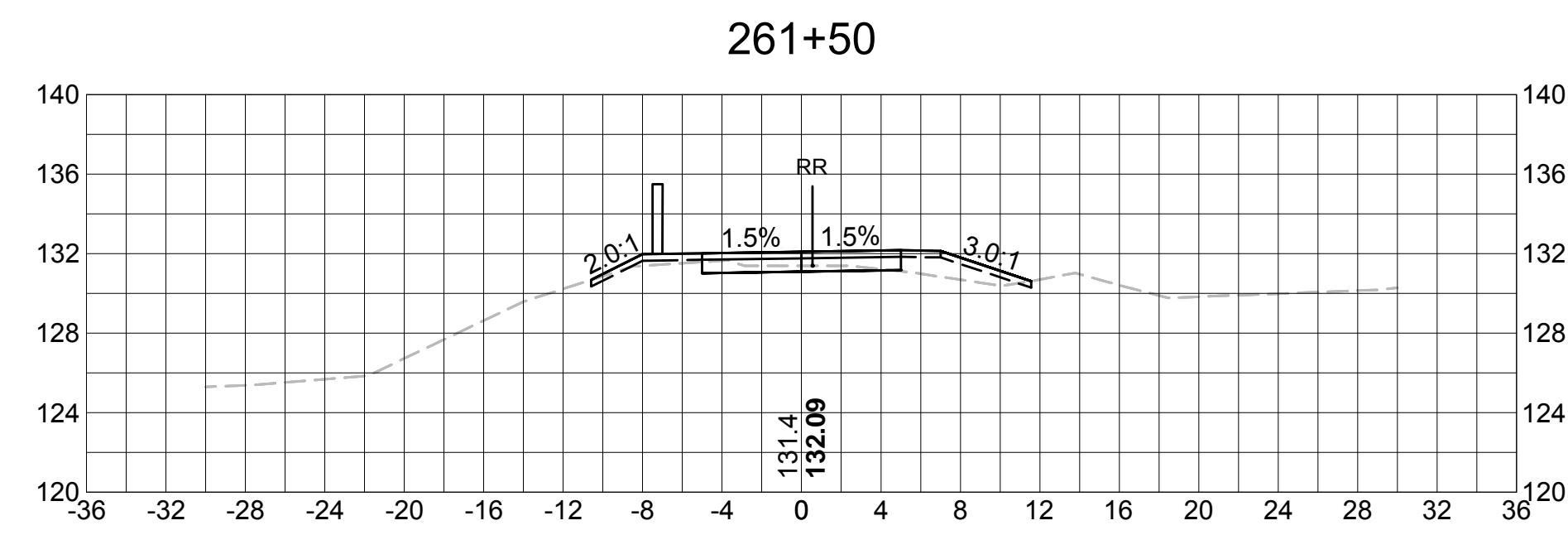
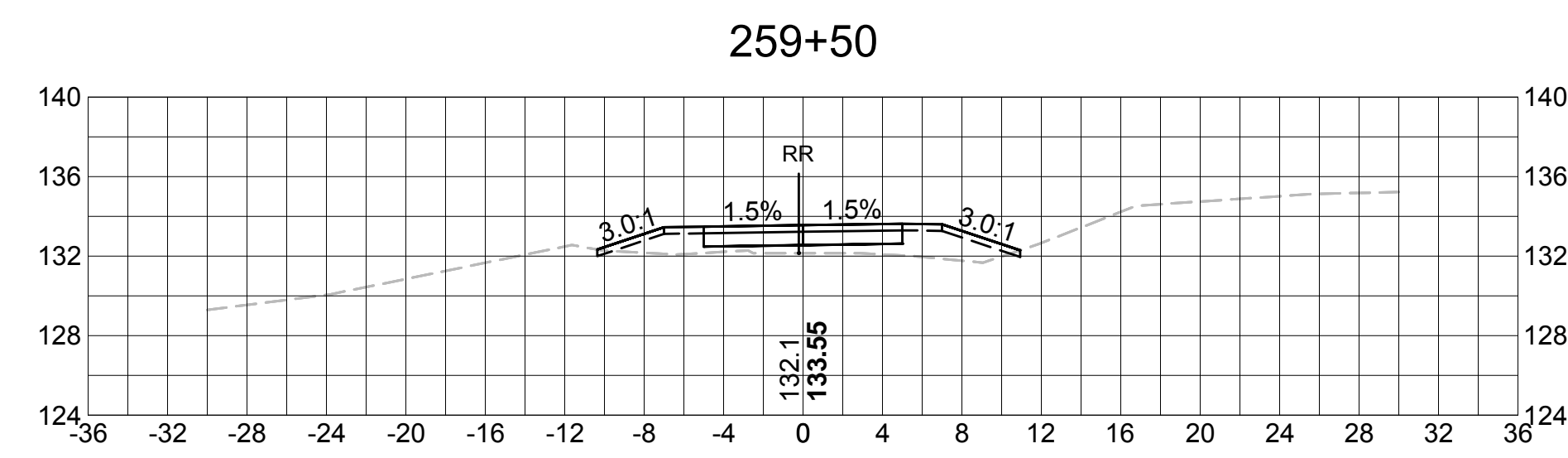
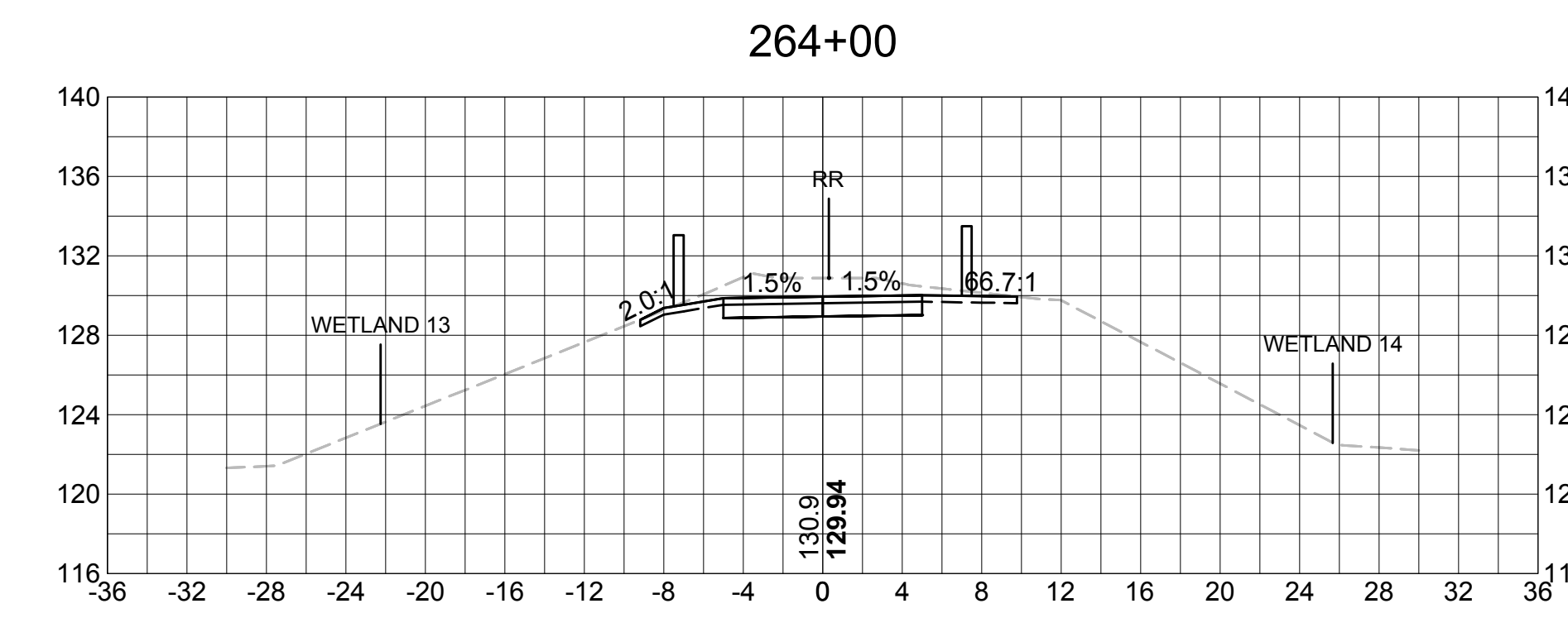
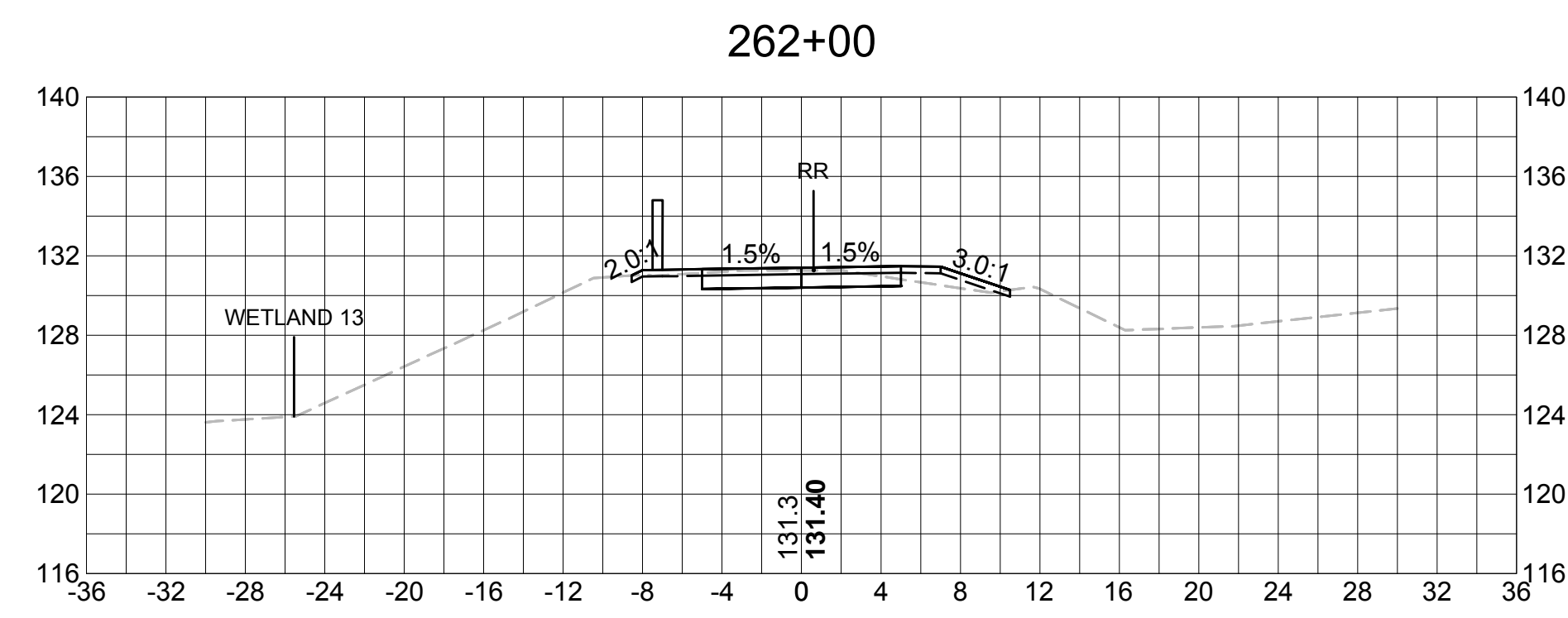
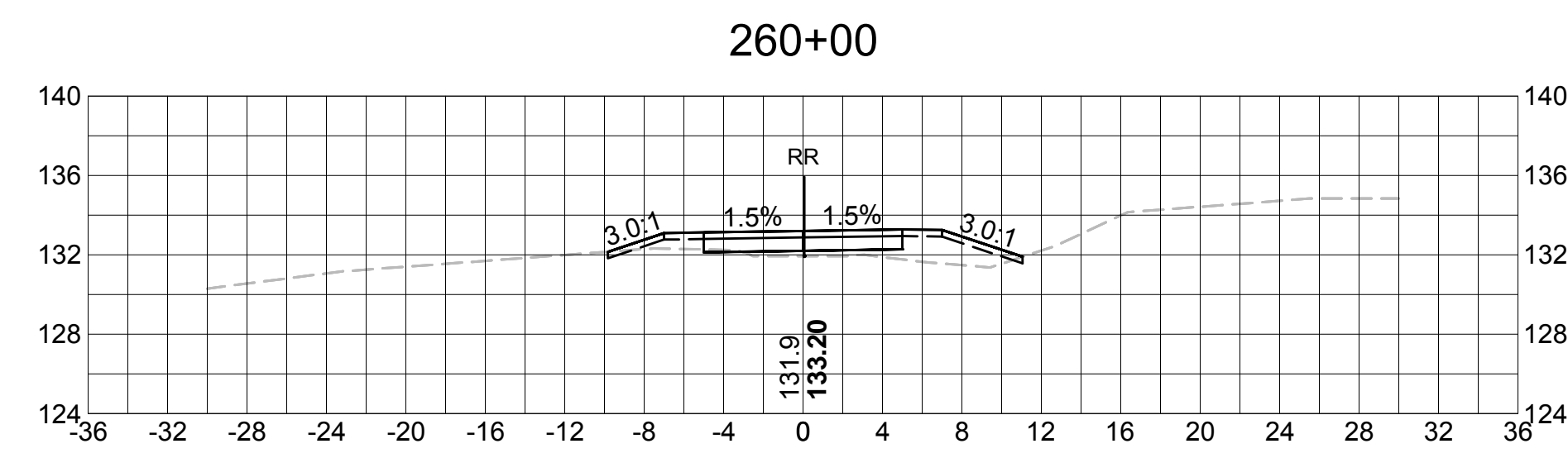
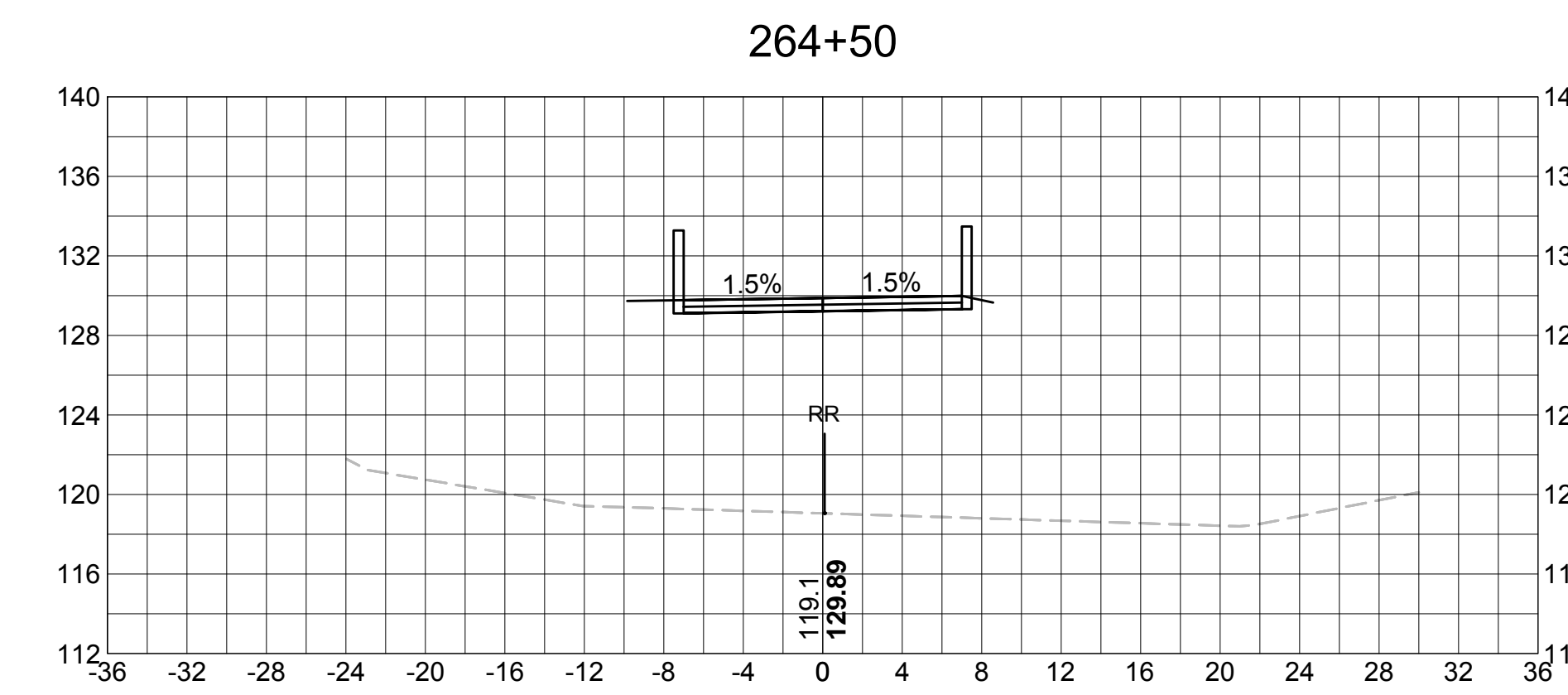
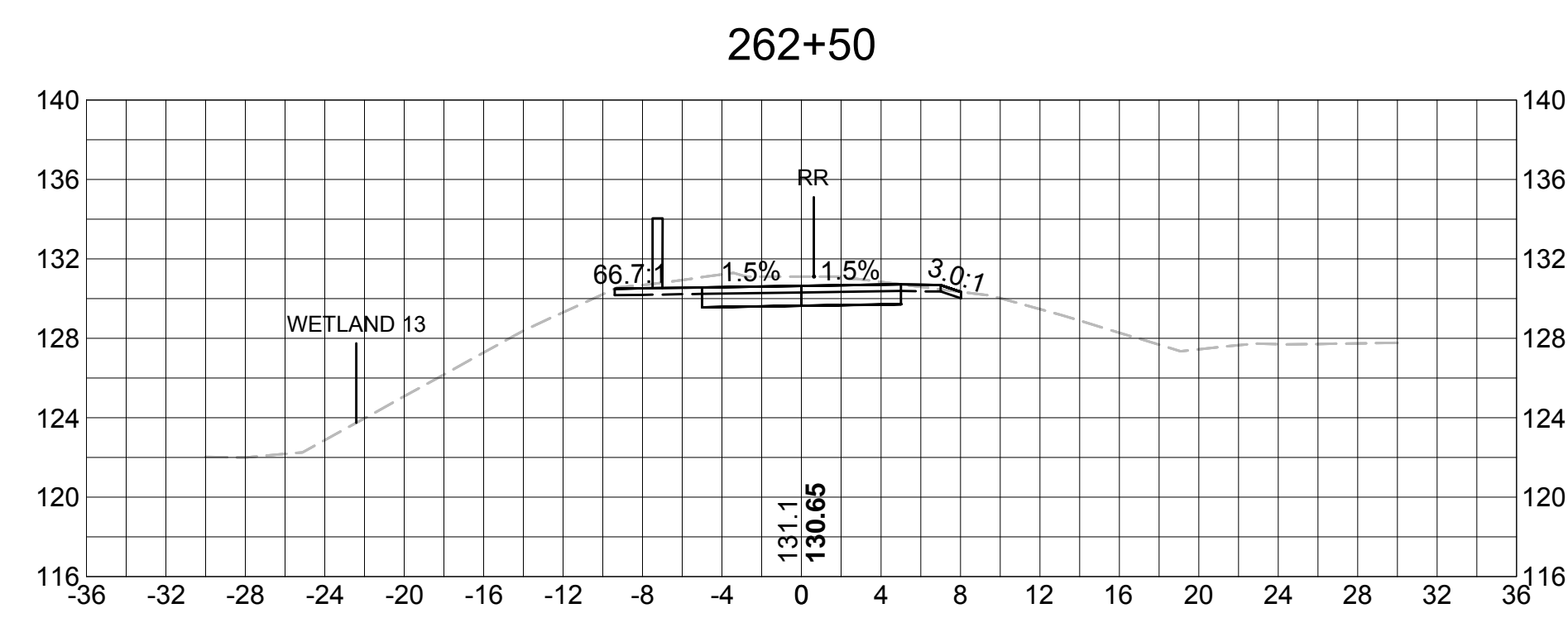
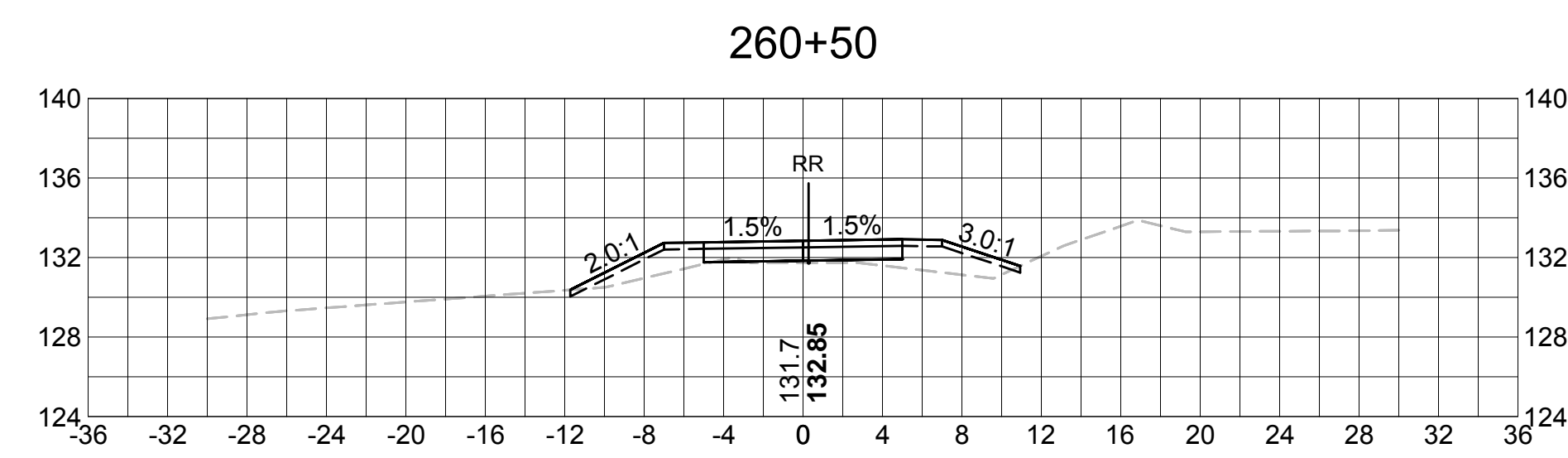
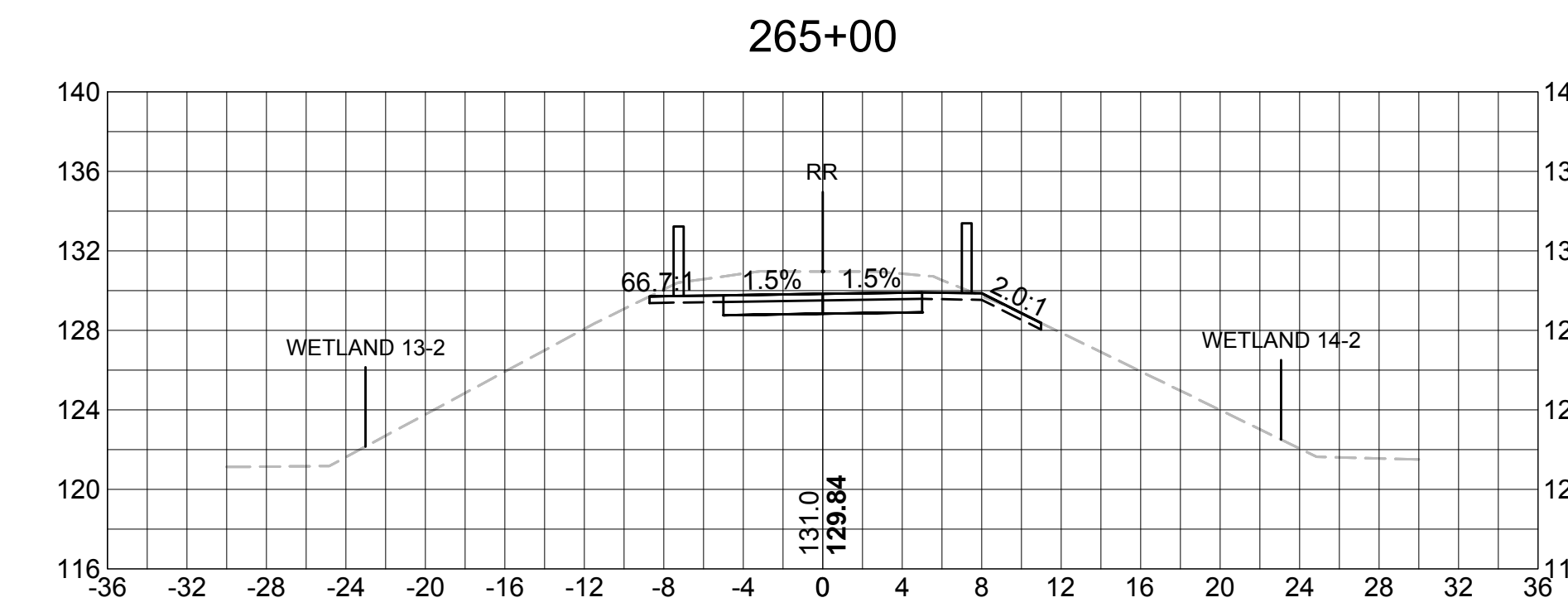
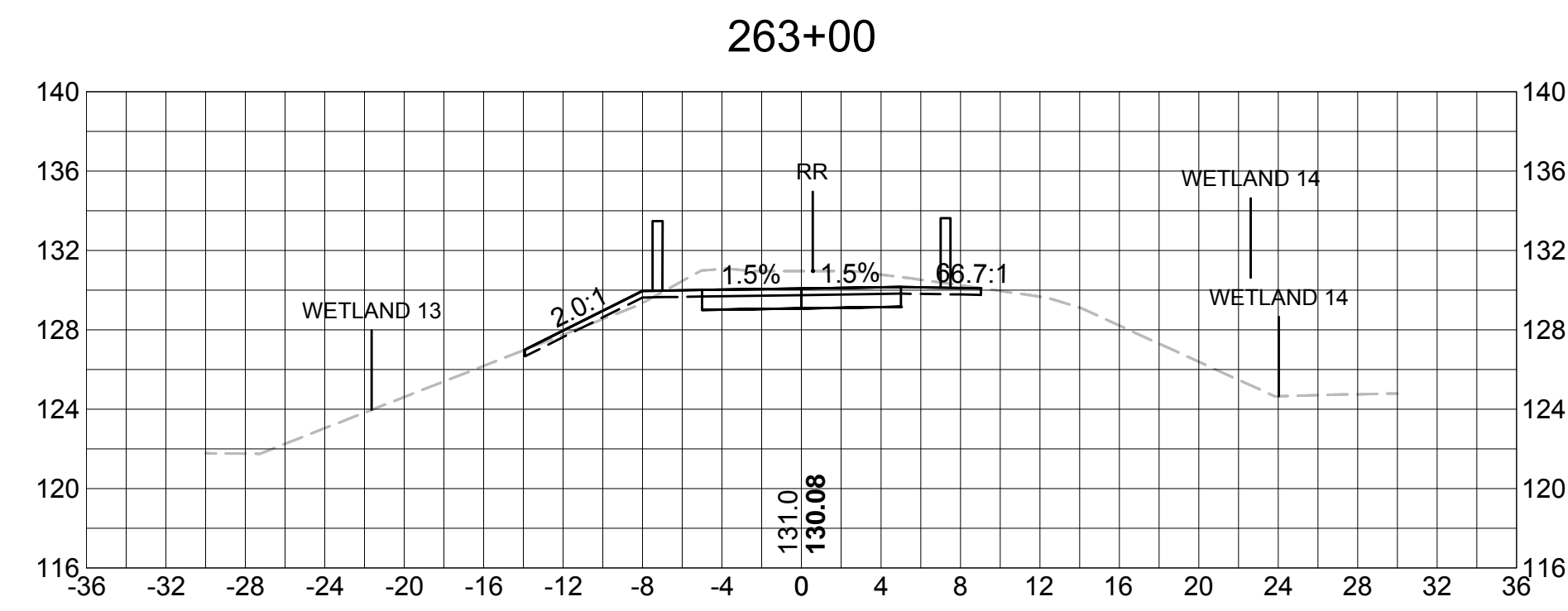
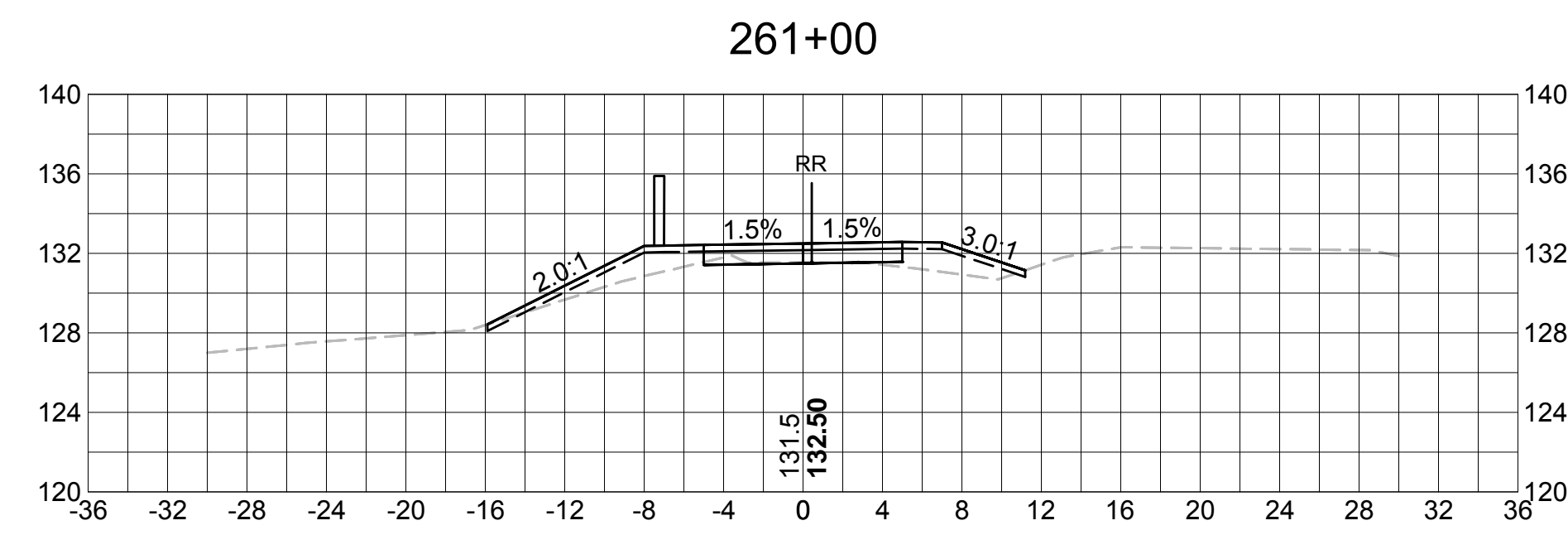
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	108	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



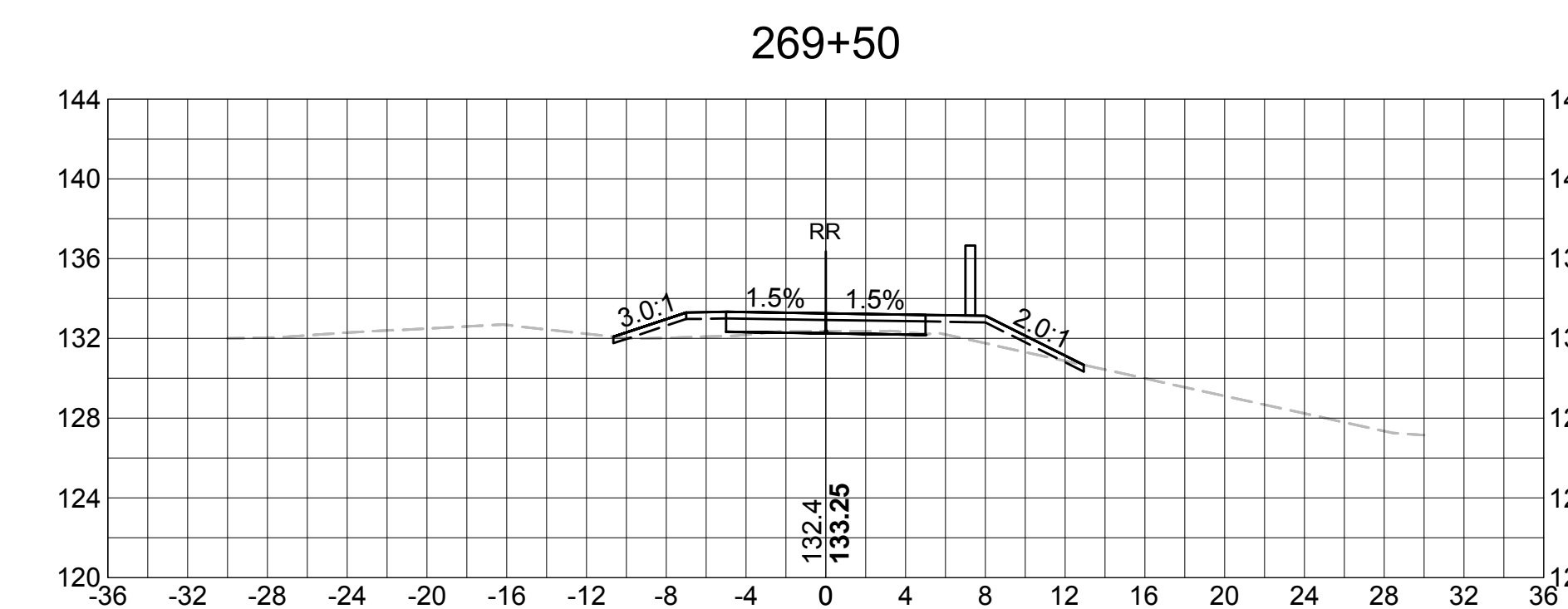
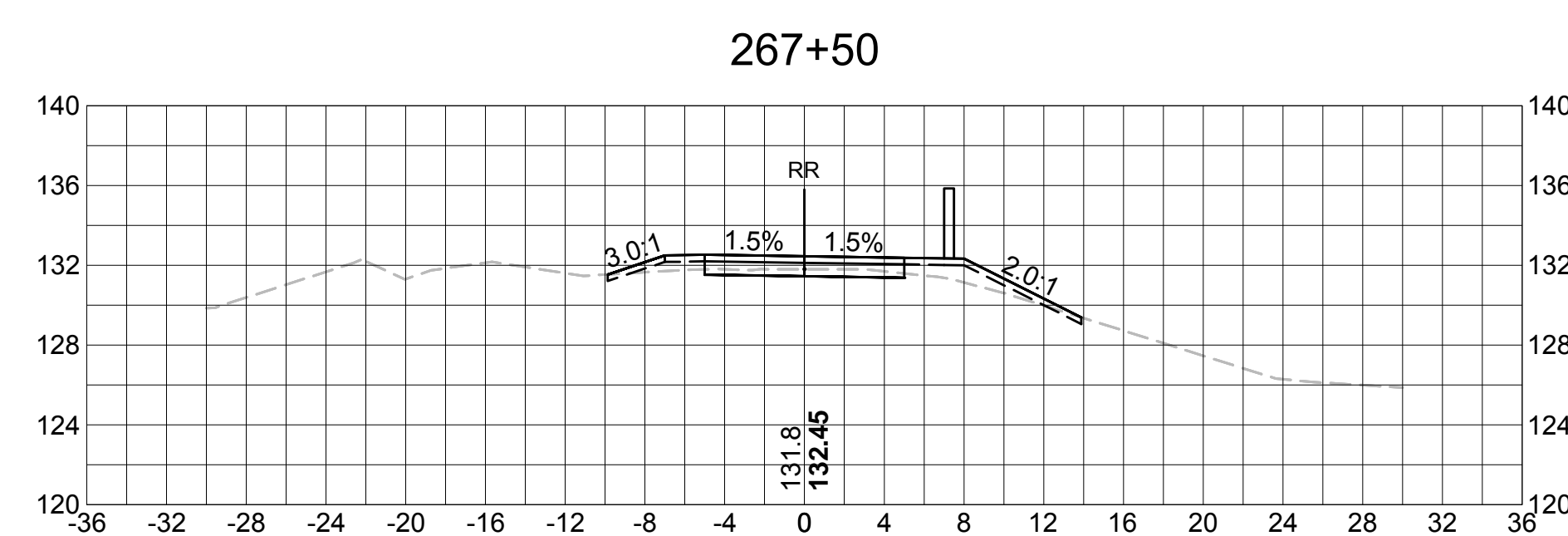
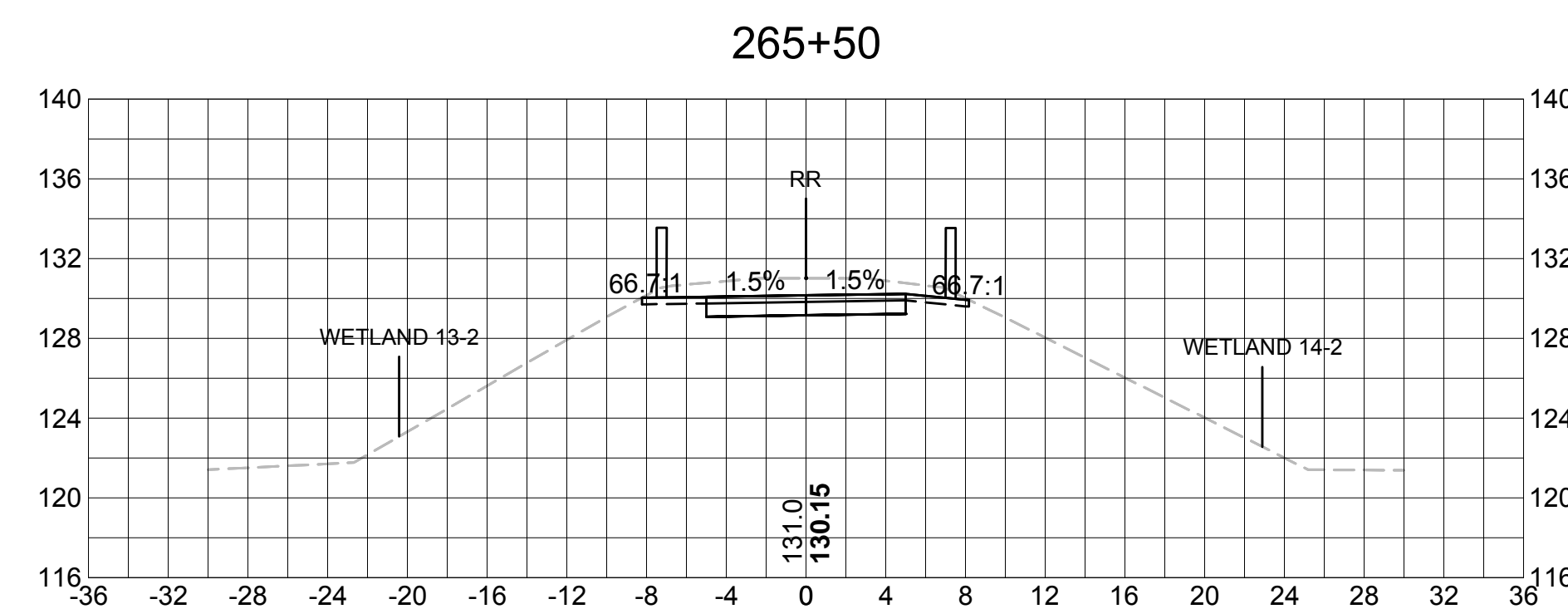
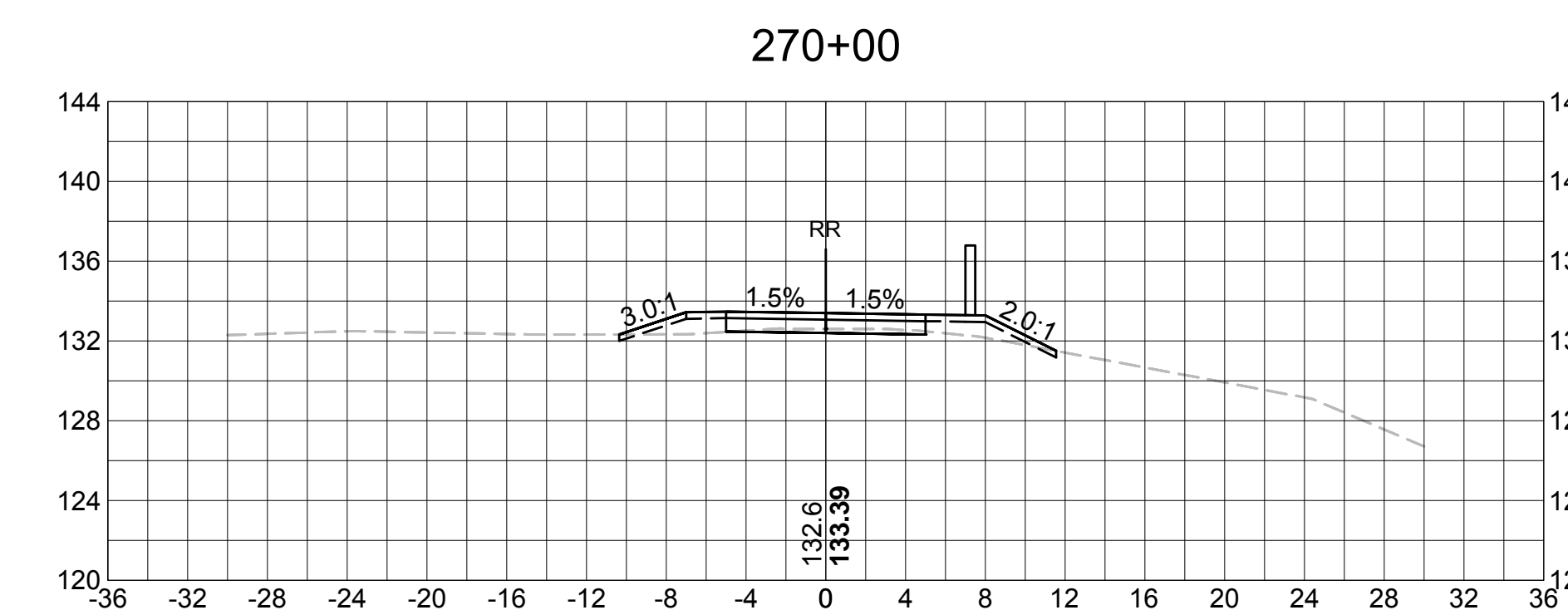
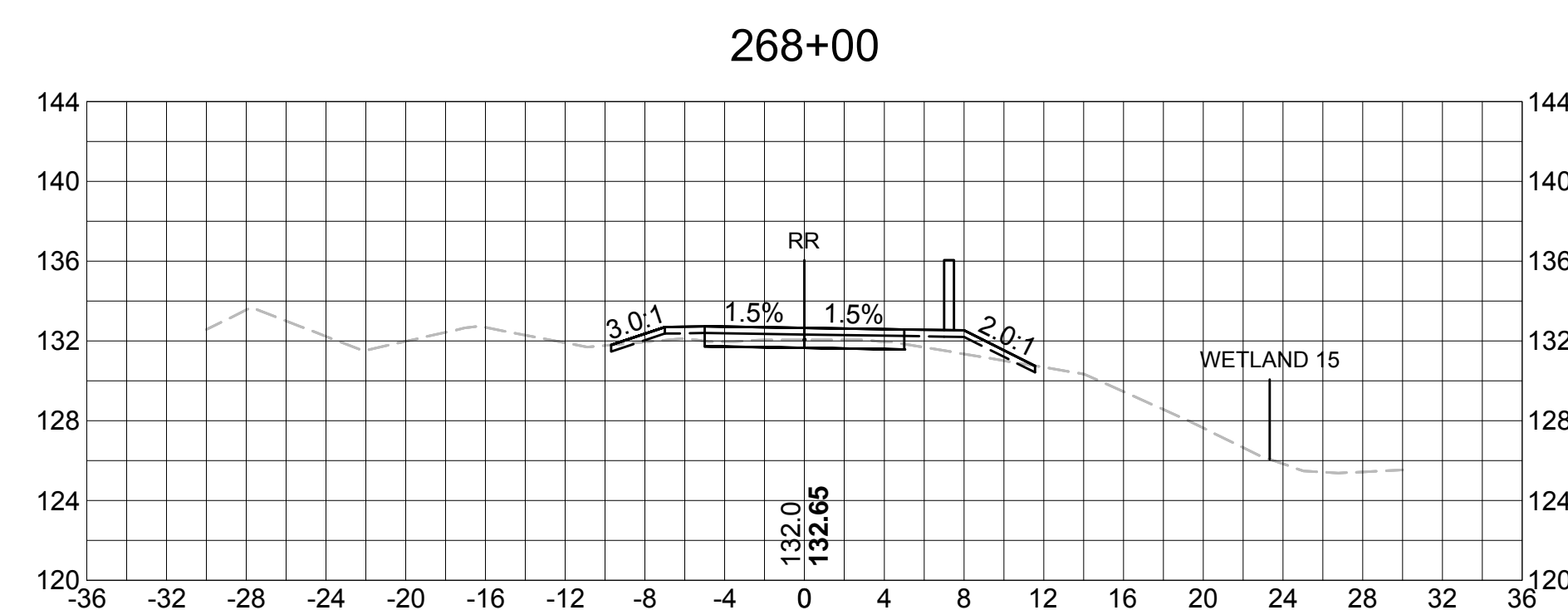
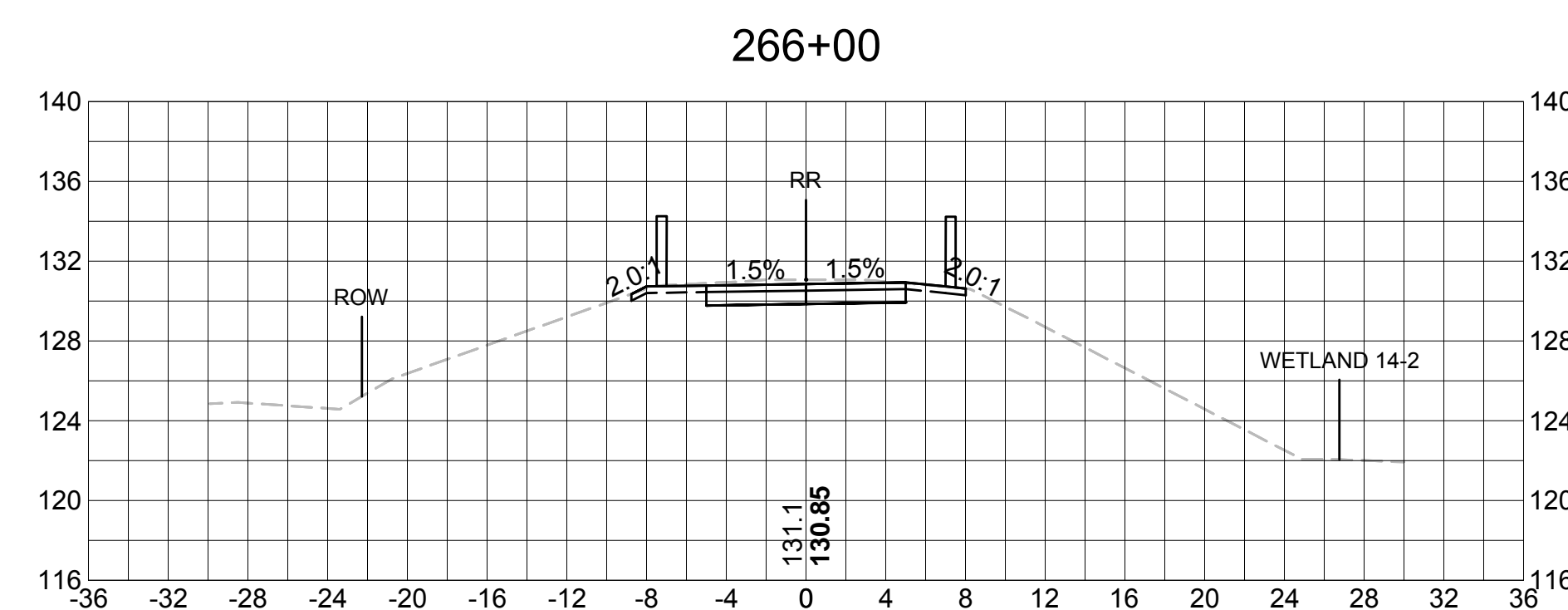
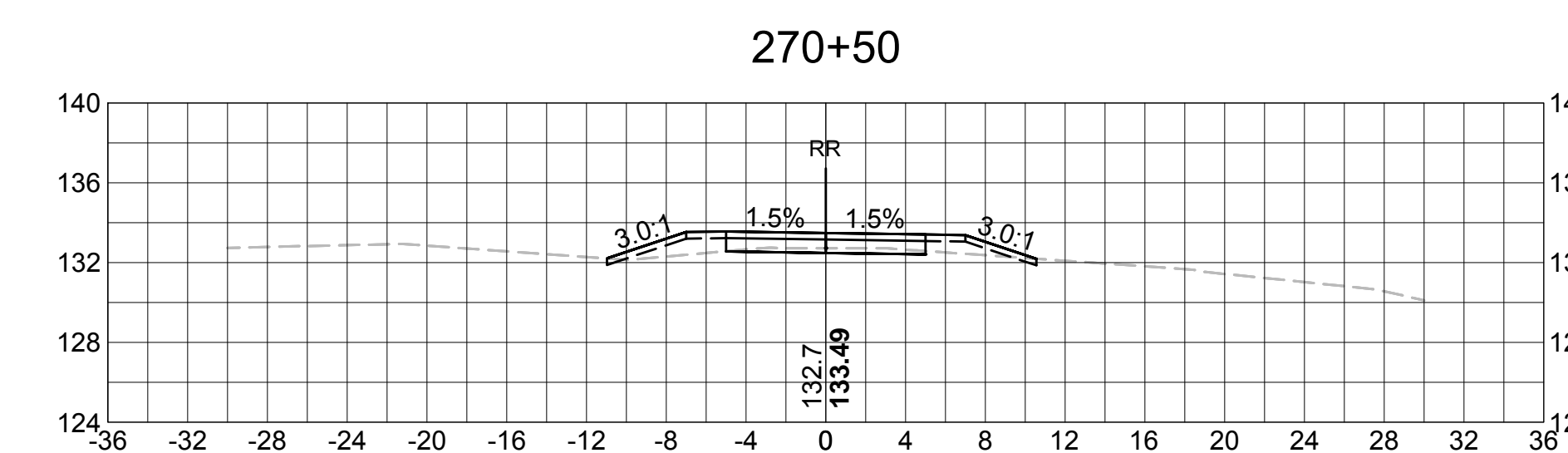
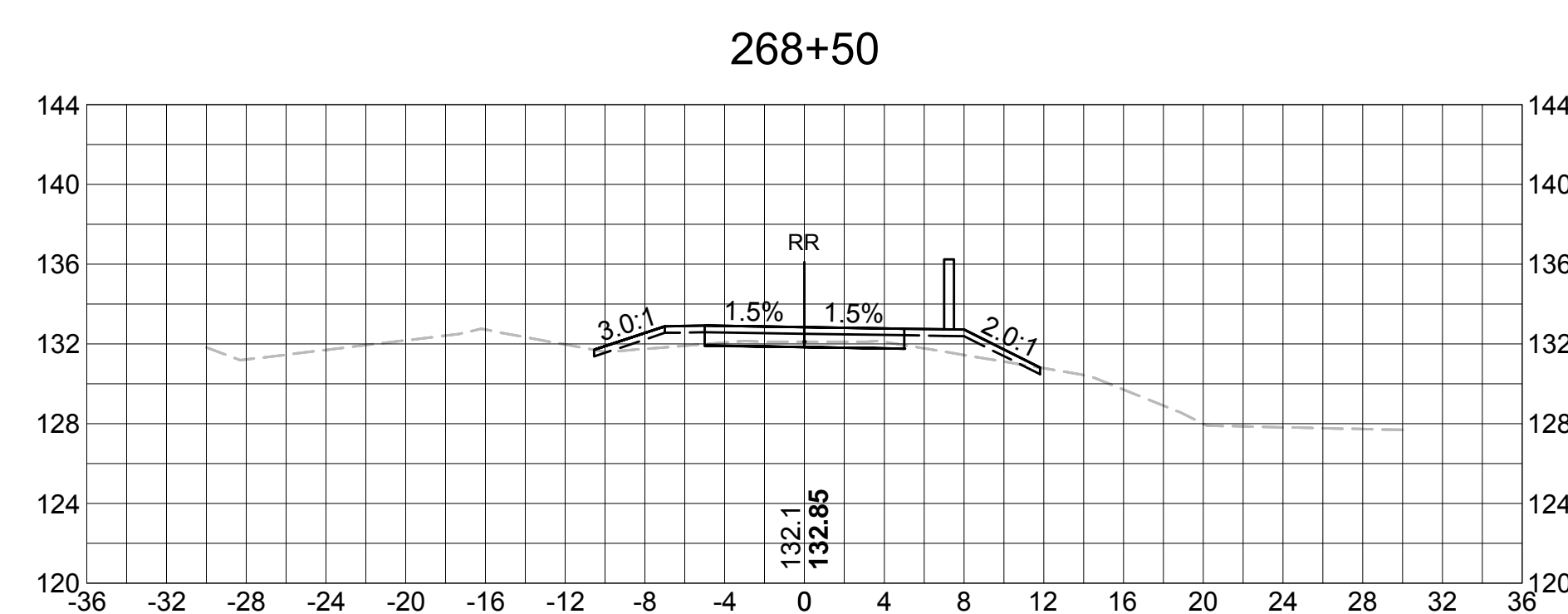
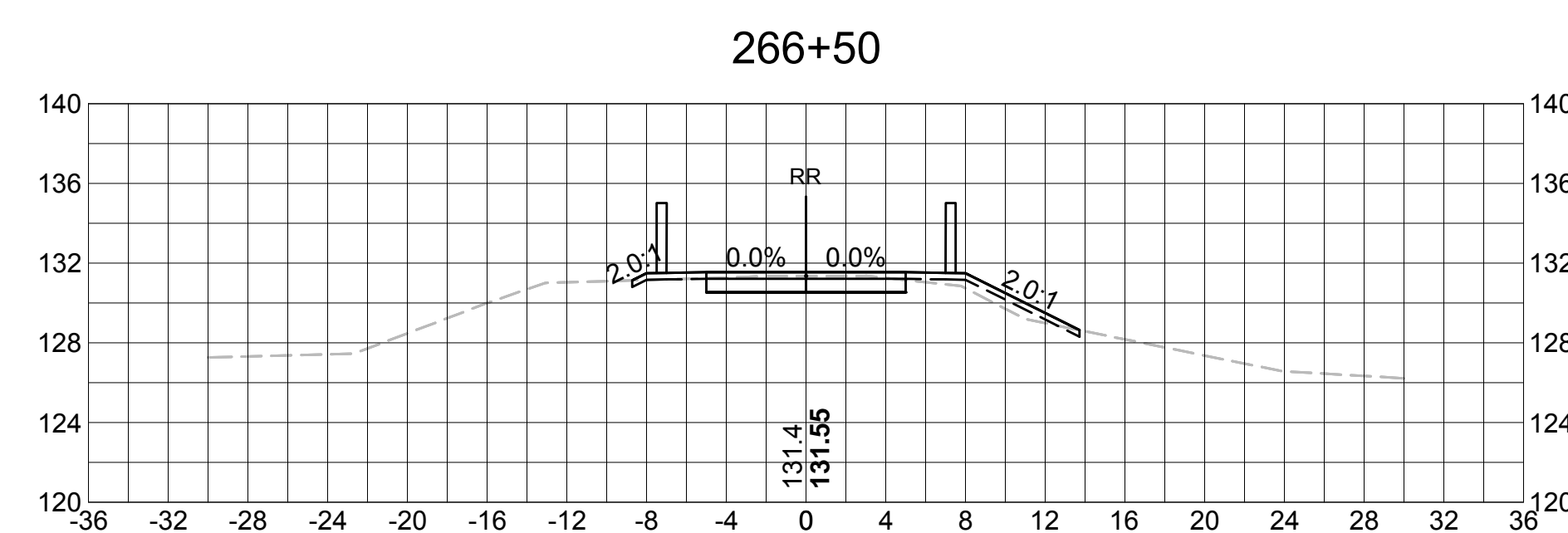
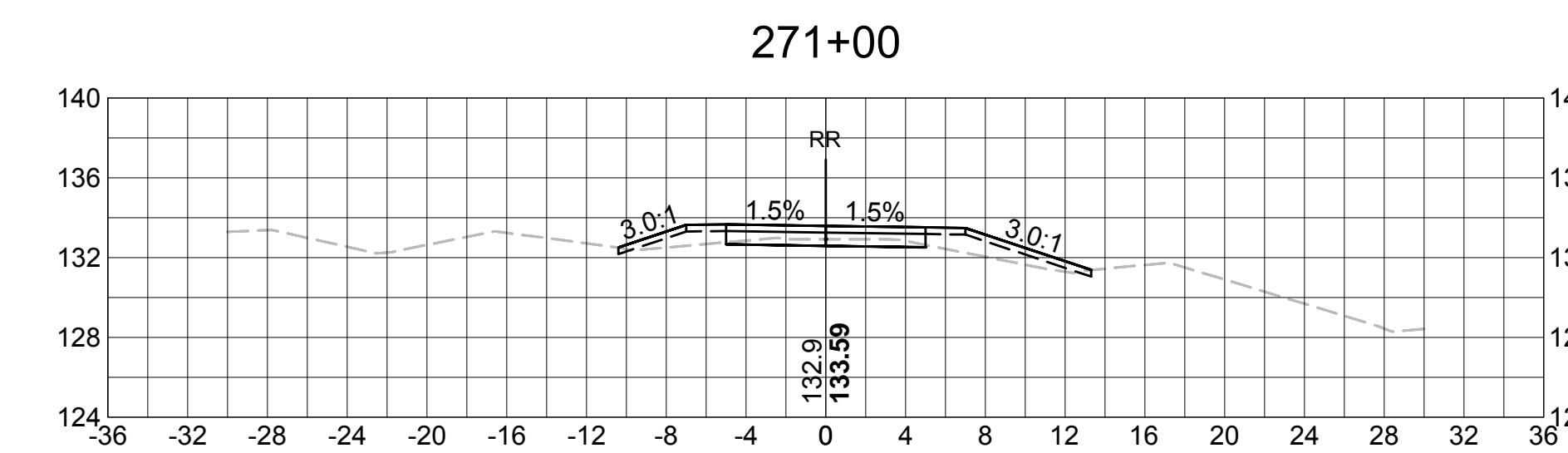
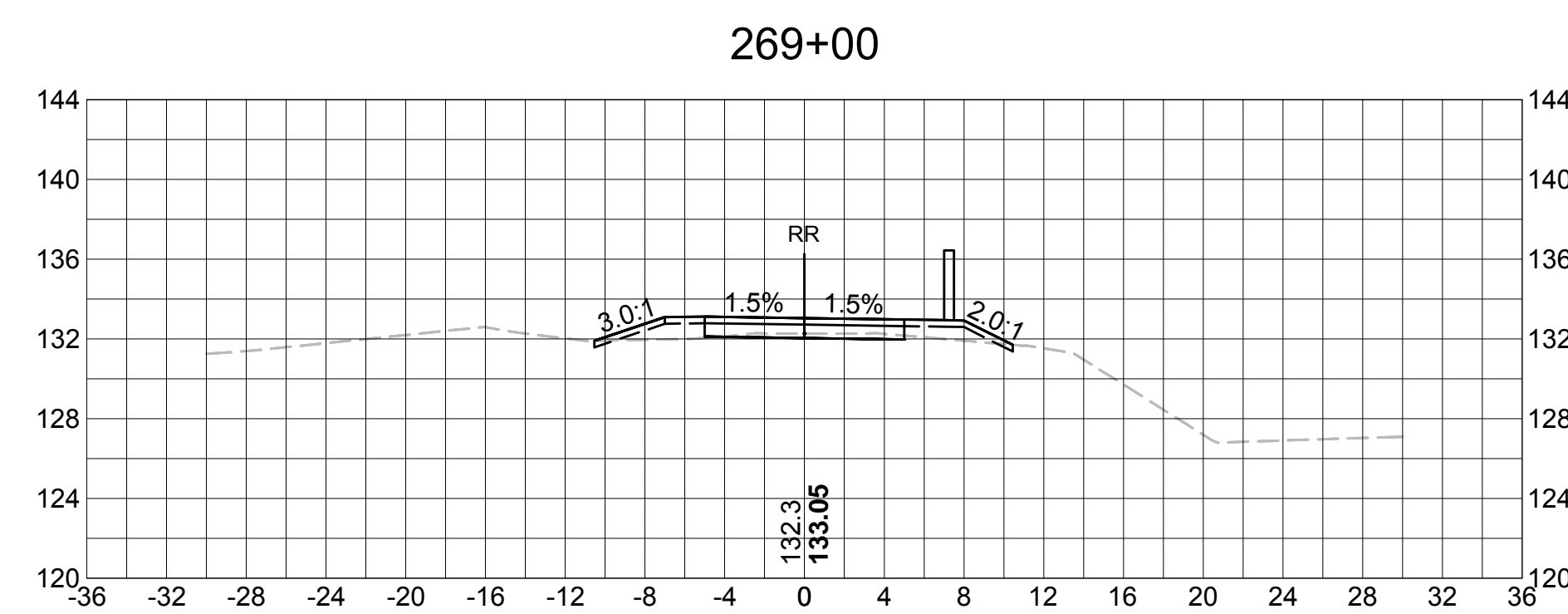
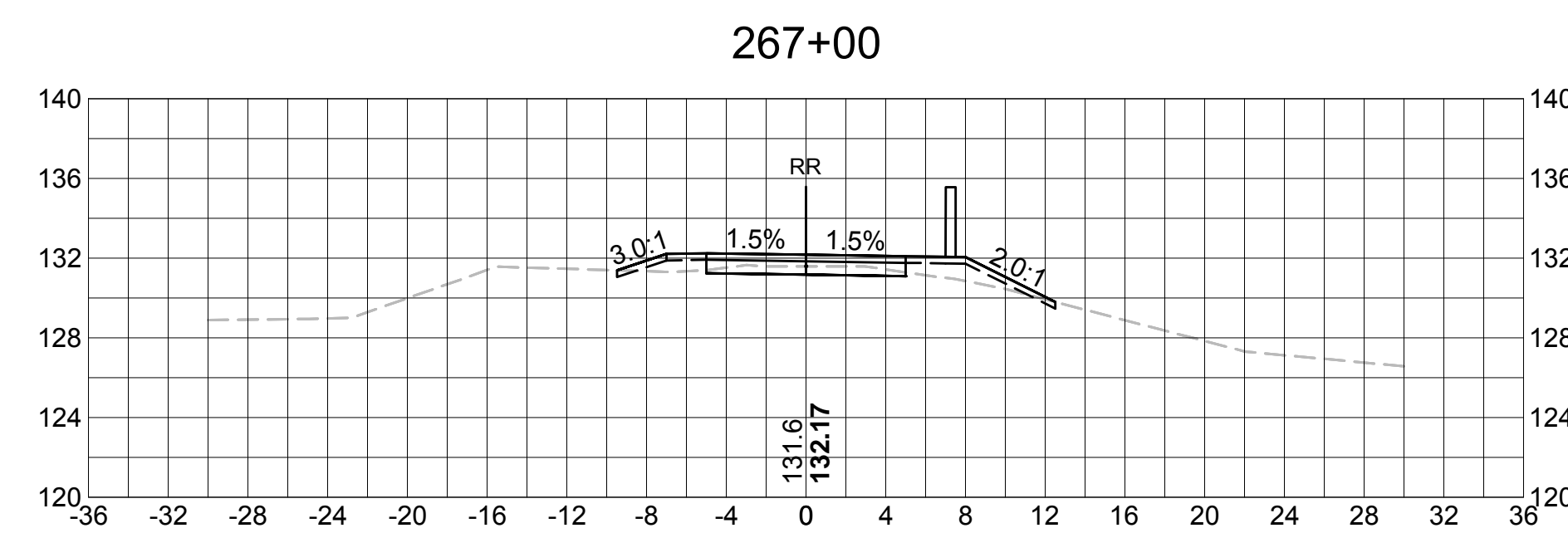
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	109	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	110	123
PROJECT FILE NO. 608164			

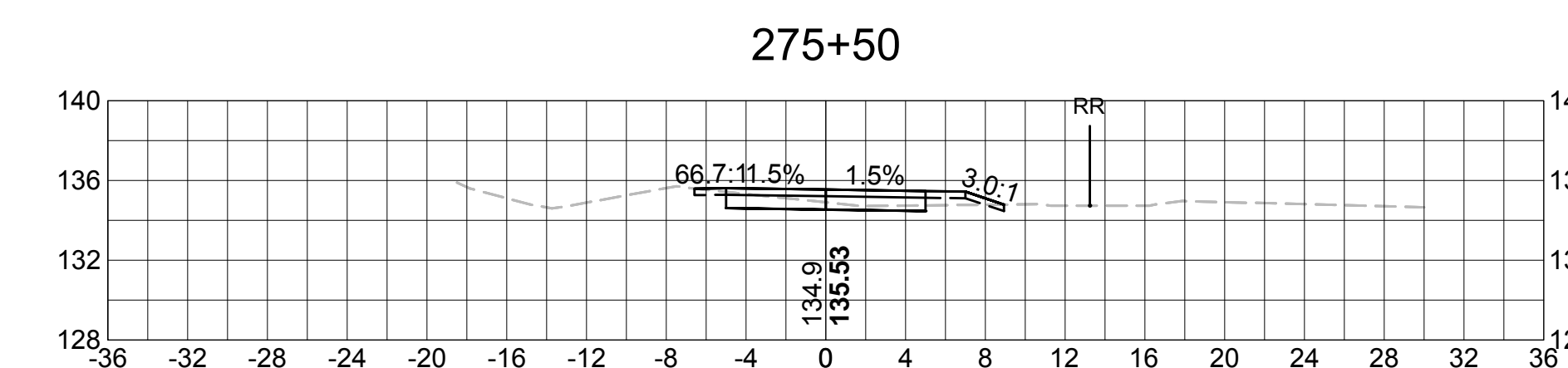
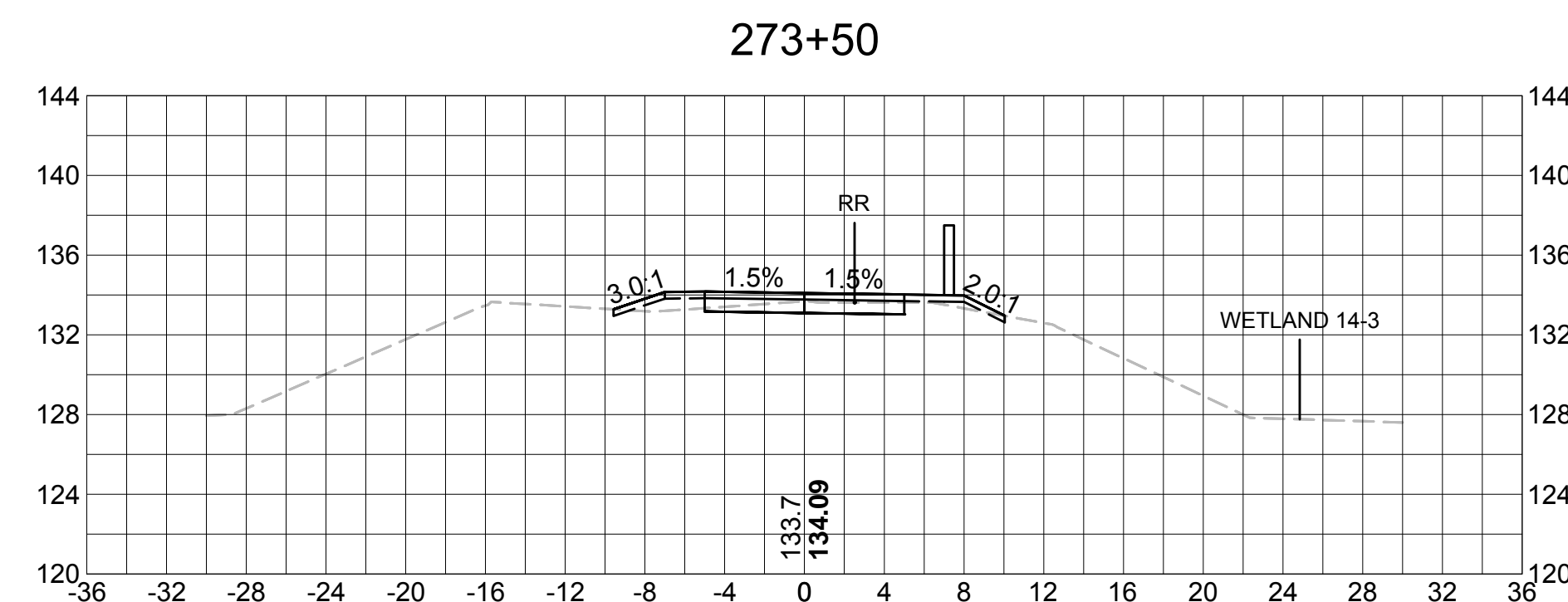
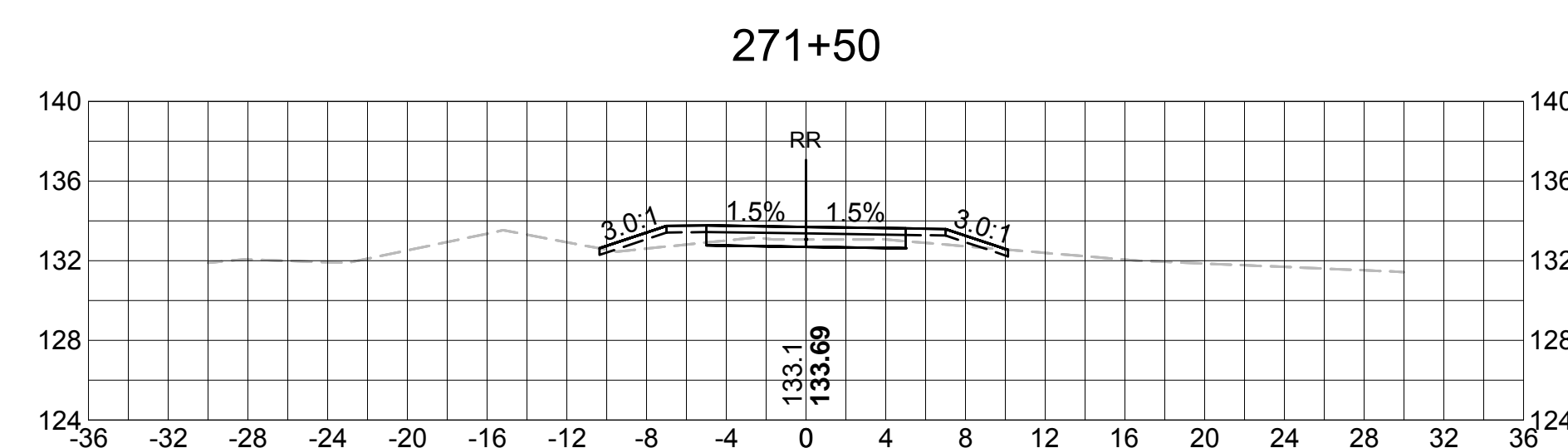
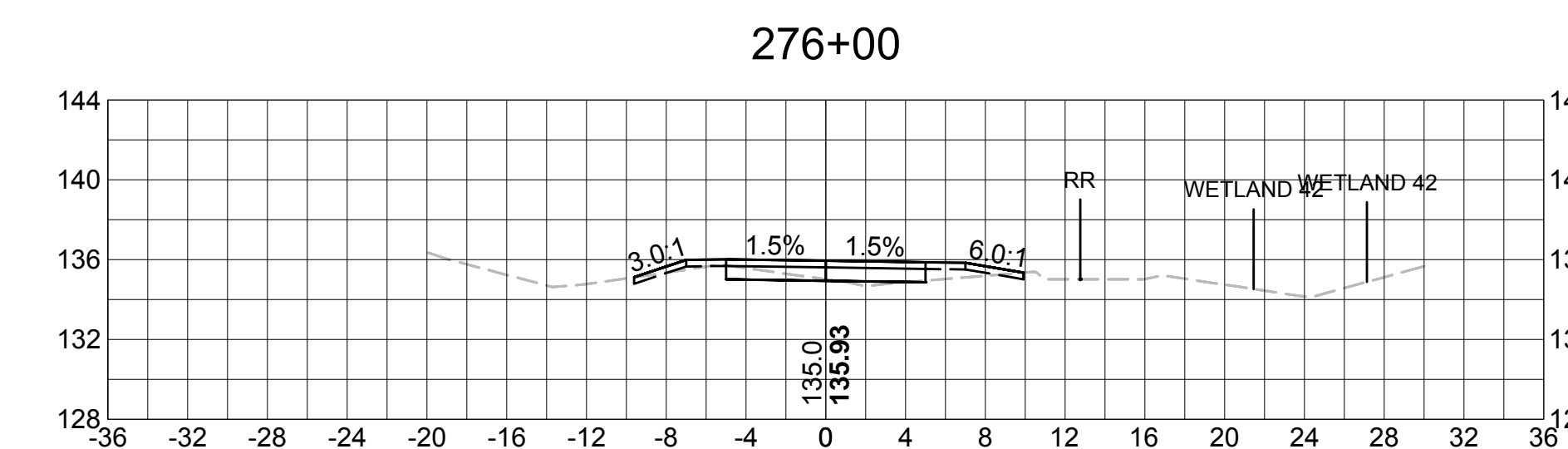
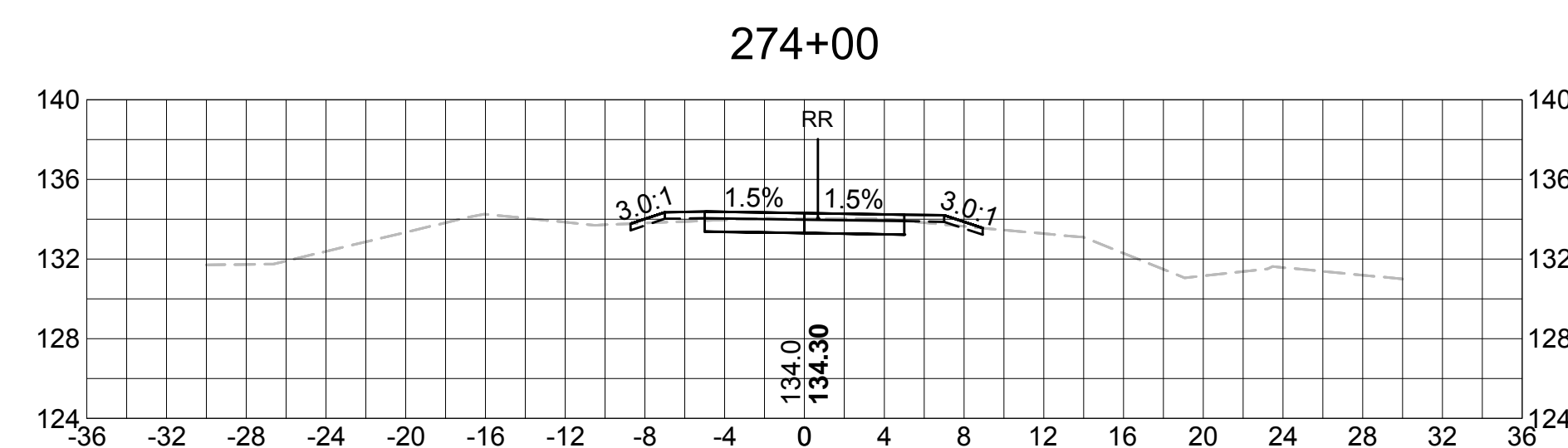
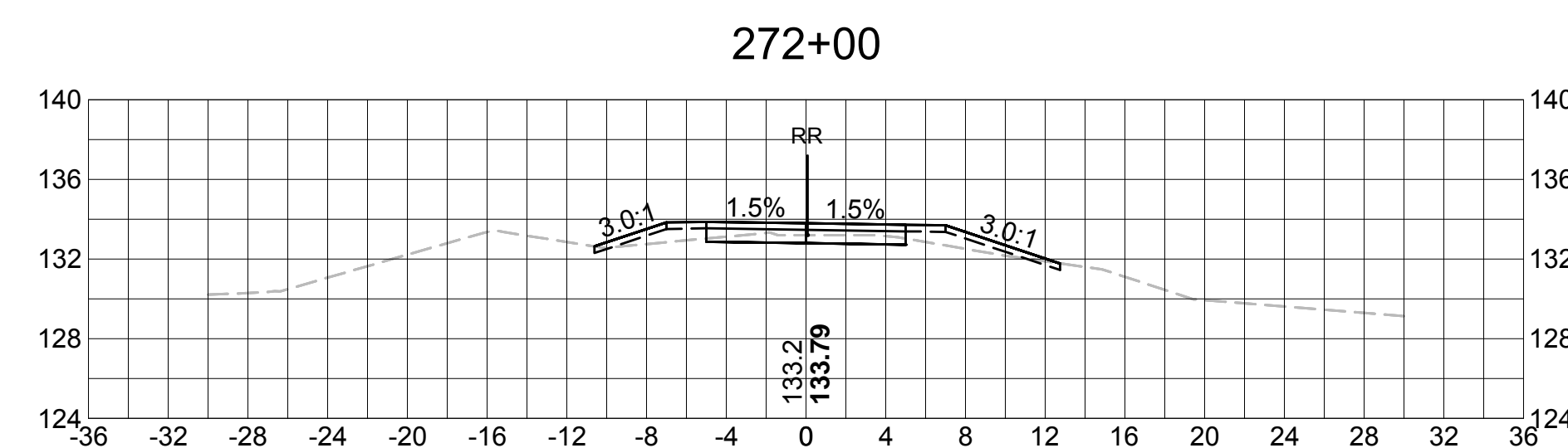
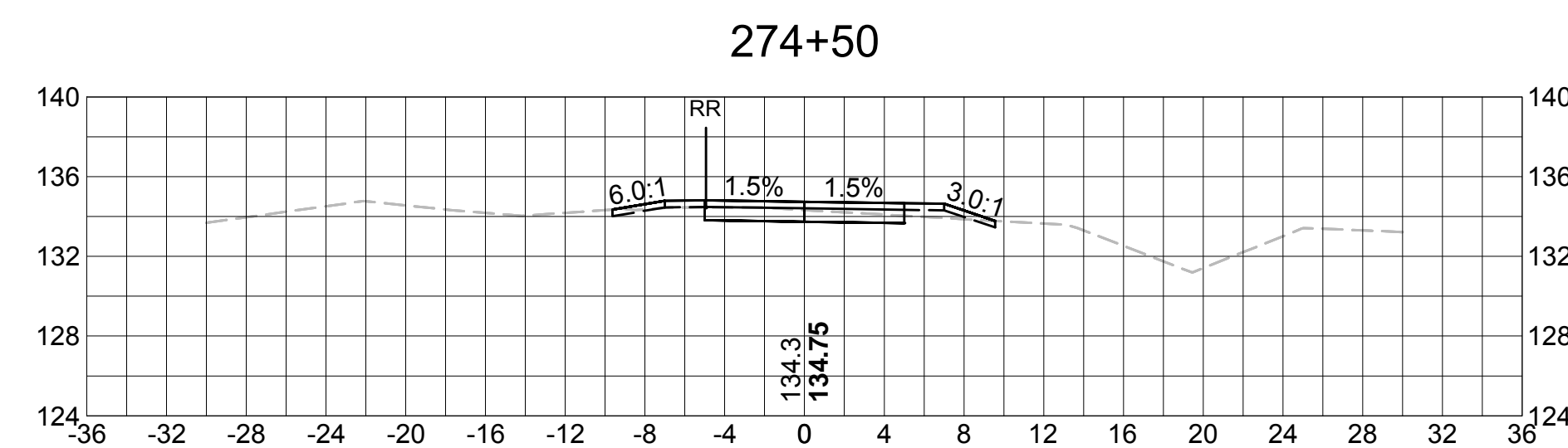
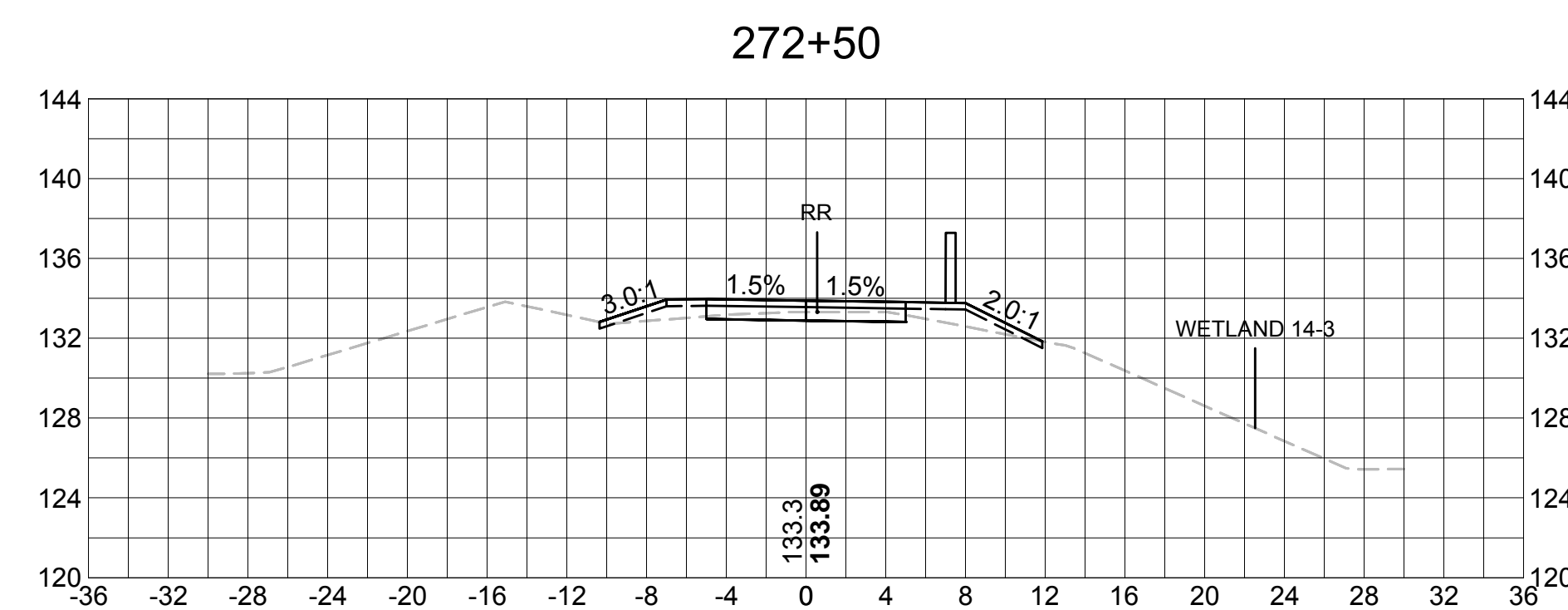
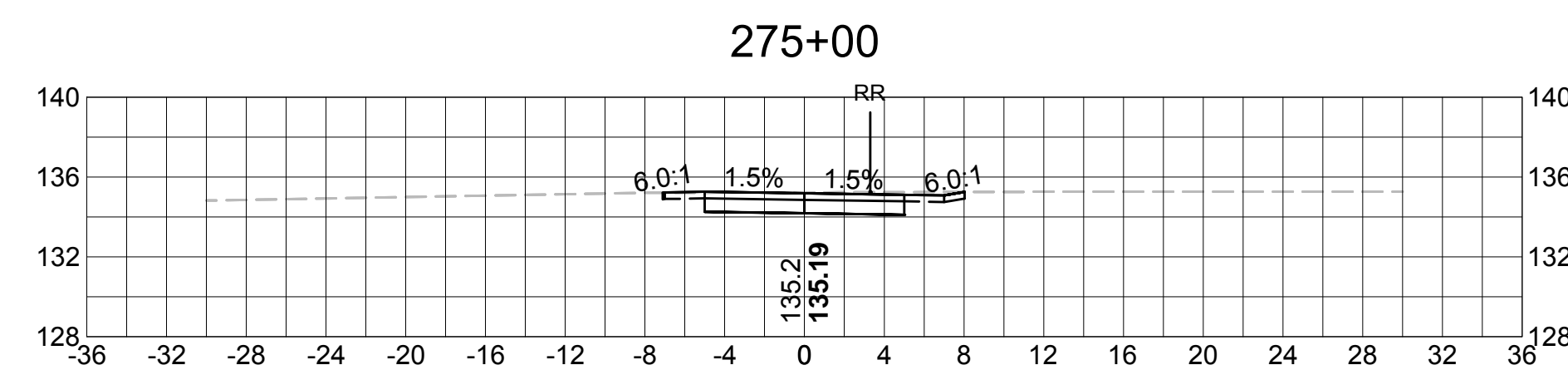
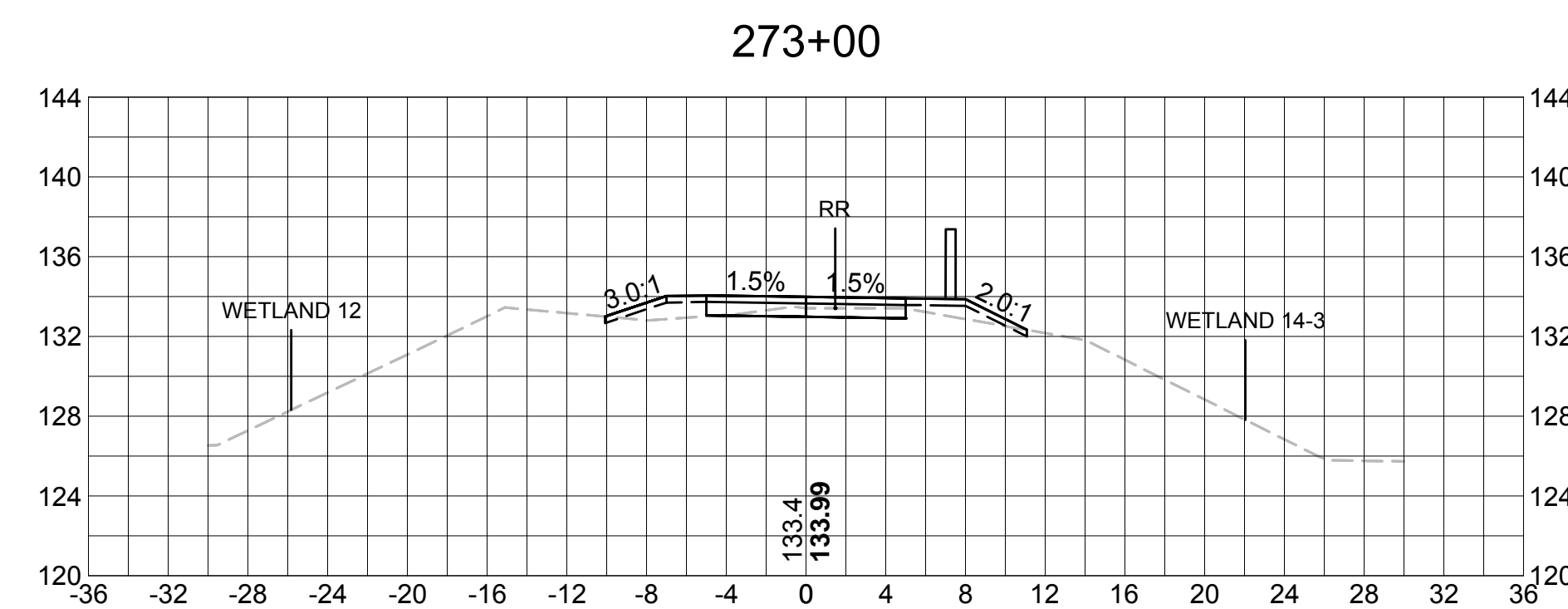
CROSS SECTIONS



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	111	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

608164_HDXSEC-3) DWG 5-Sep-2017

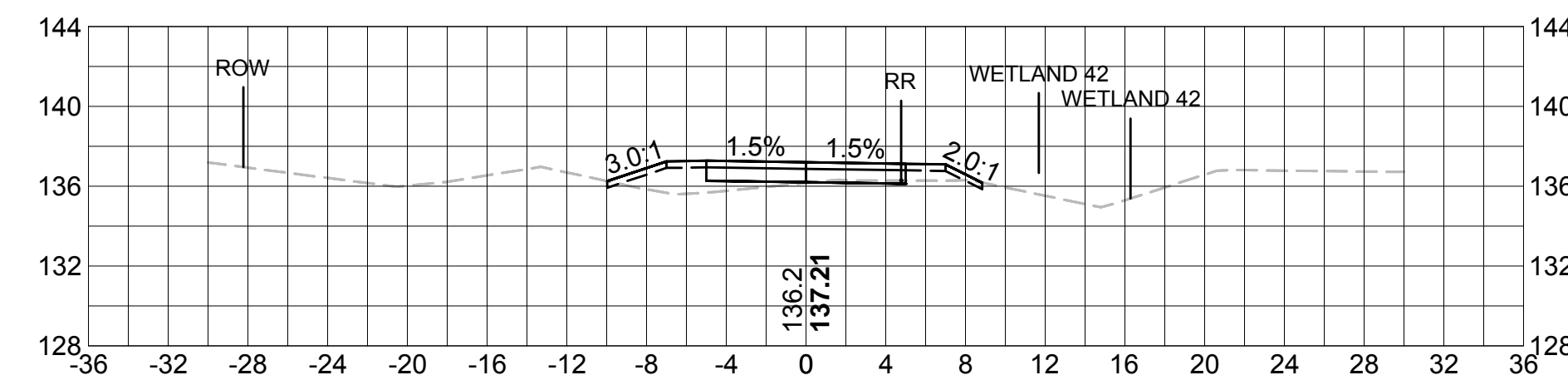


SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	112	123
PROJECT FILE NO. 608164			

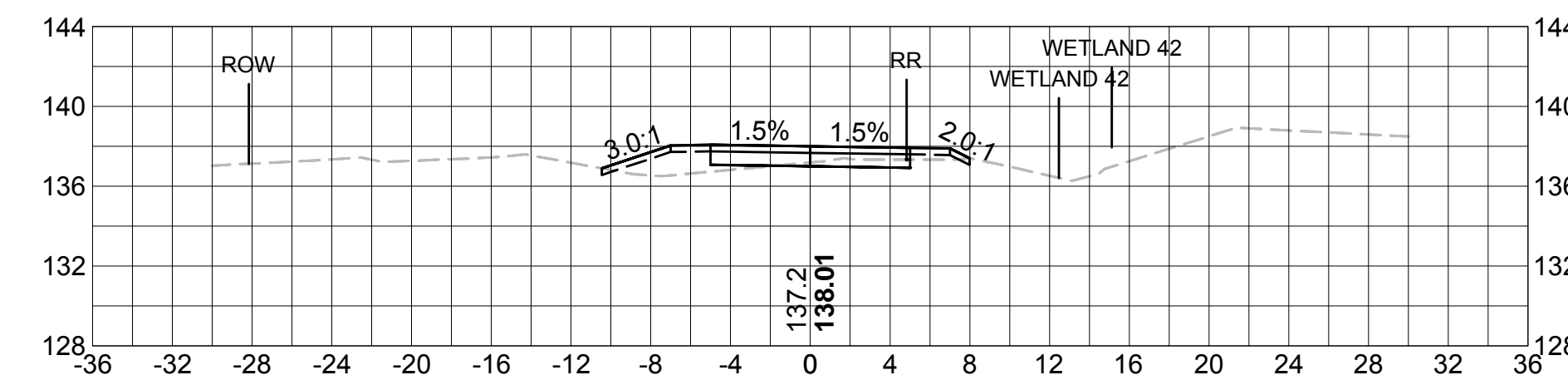
CROSS SECTIONS

608164_HDXSEC-11.DWG 5-Sep-2017

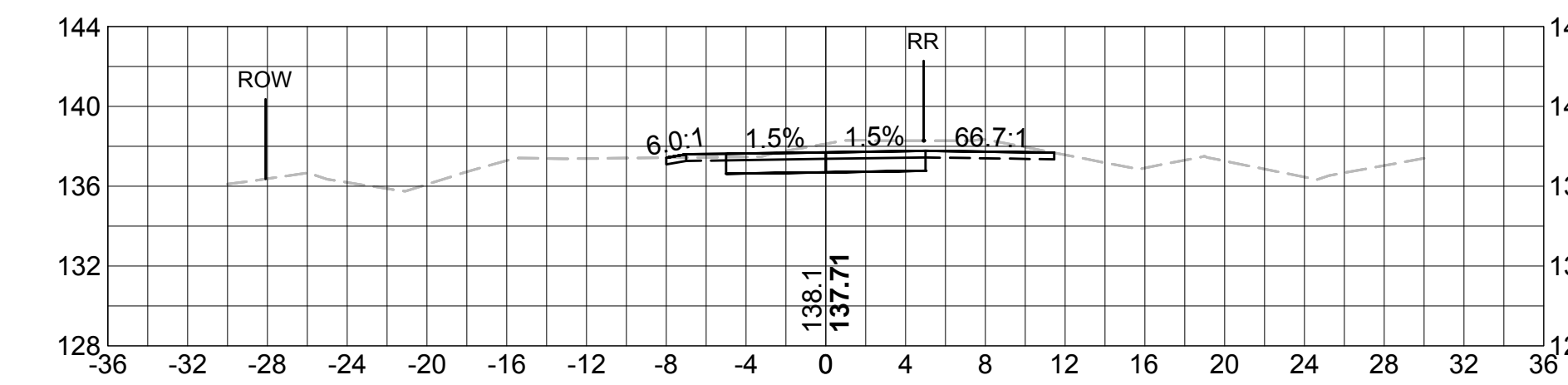
278+00



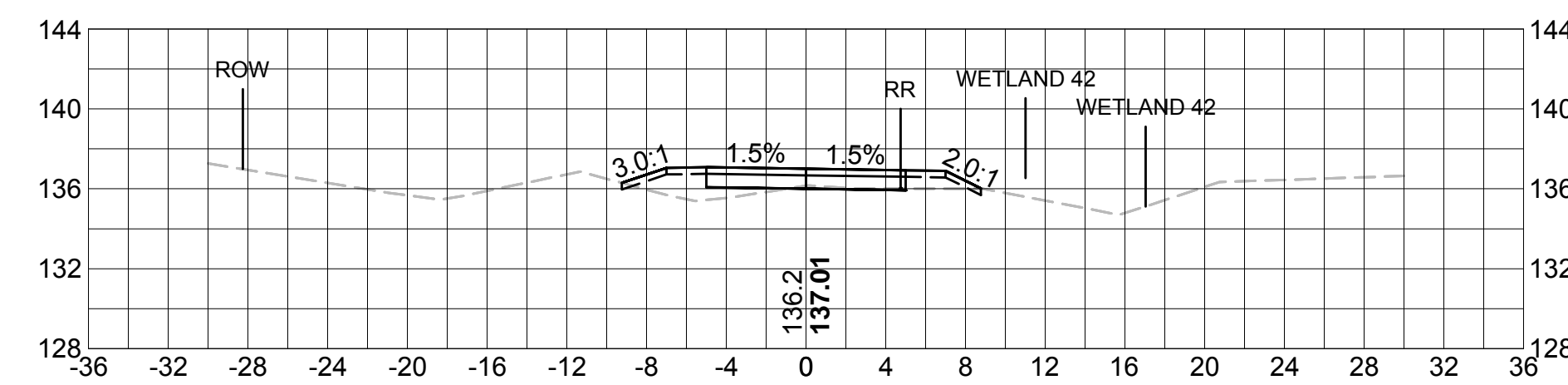
280+00



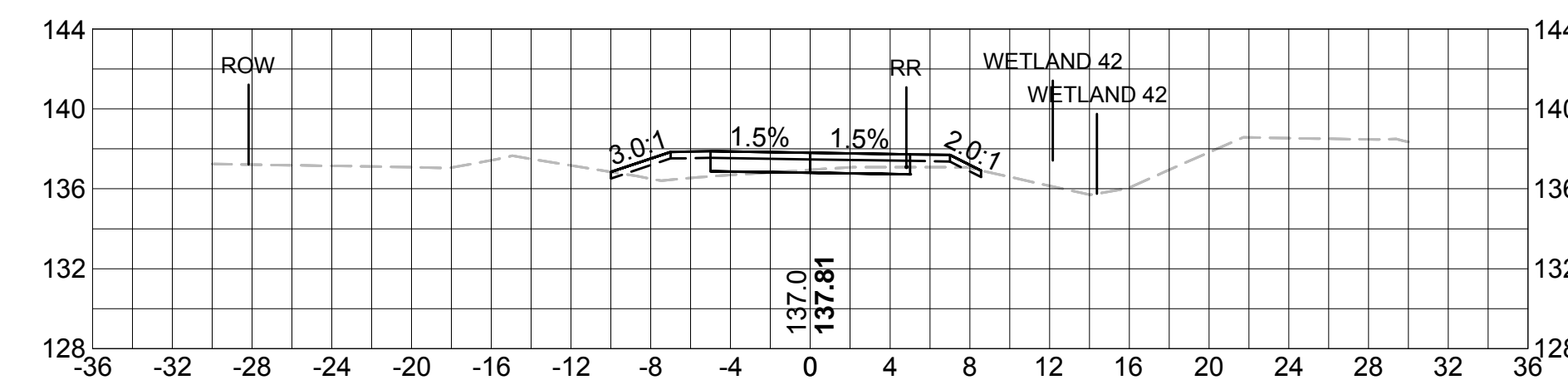
282+00



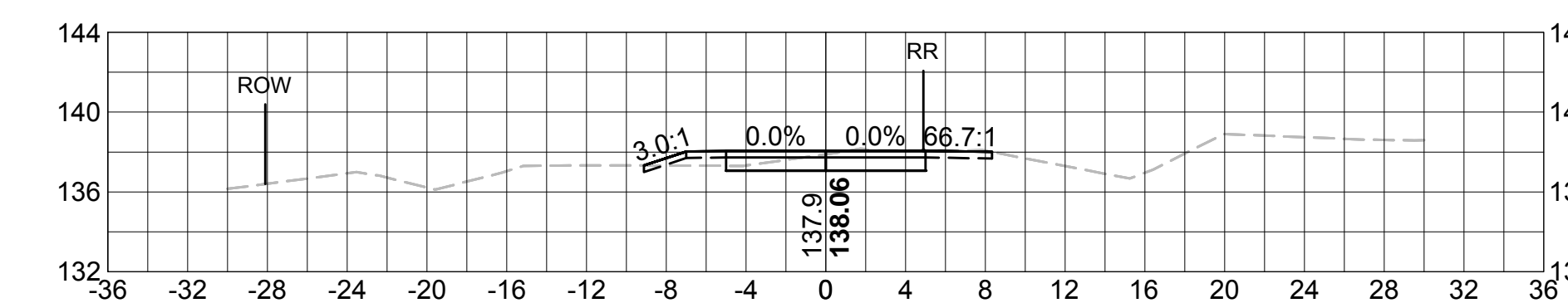
277+50



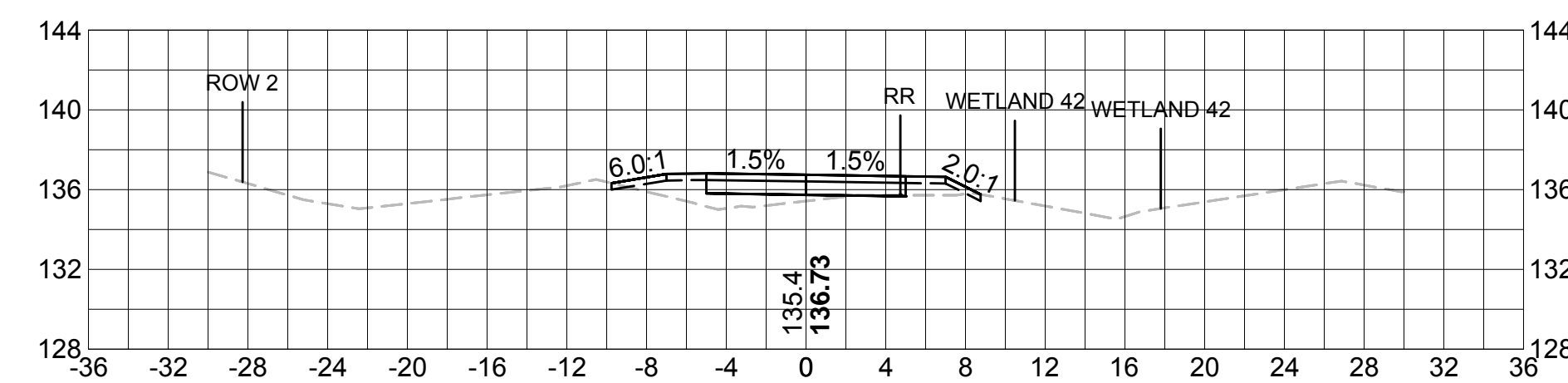
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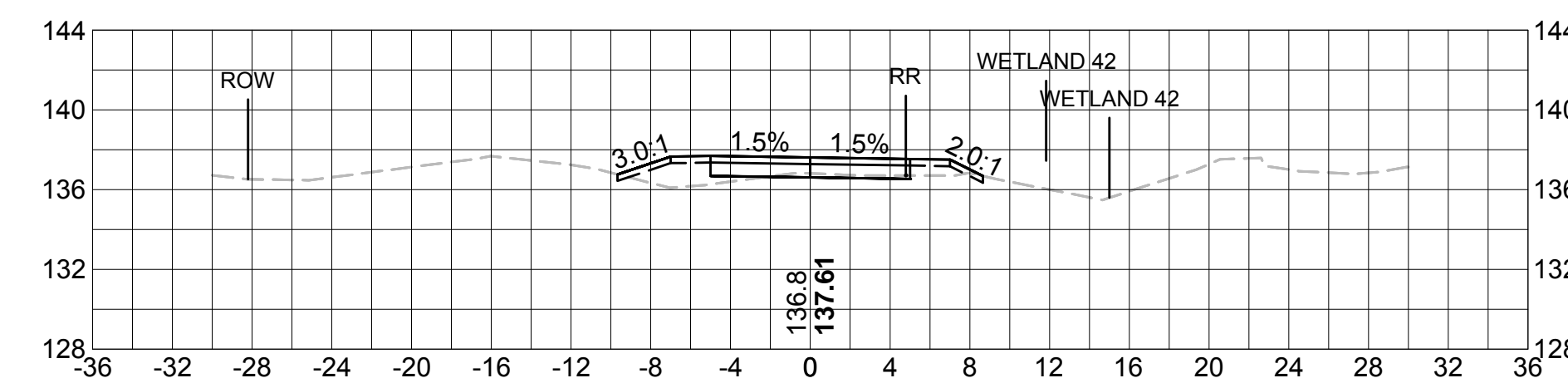
281+50



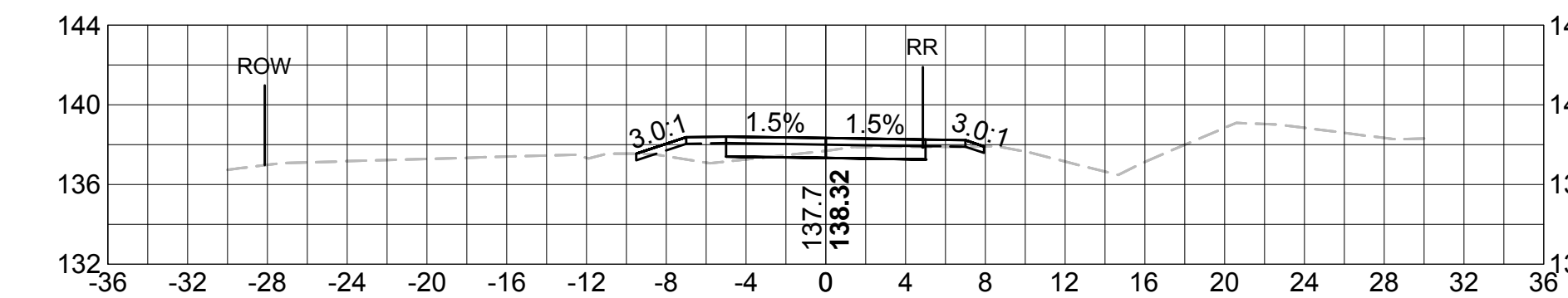
277+00



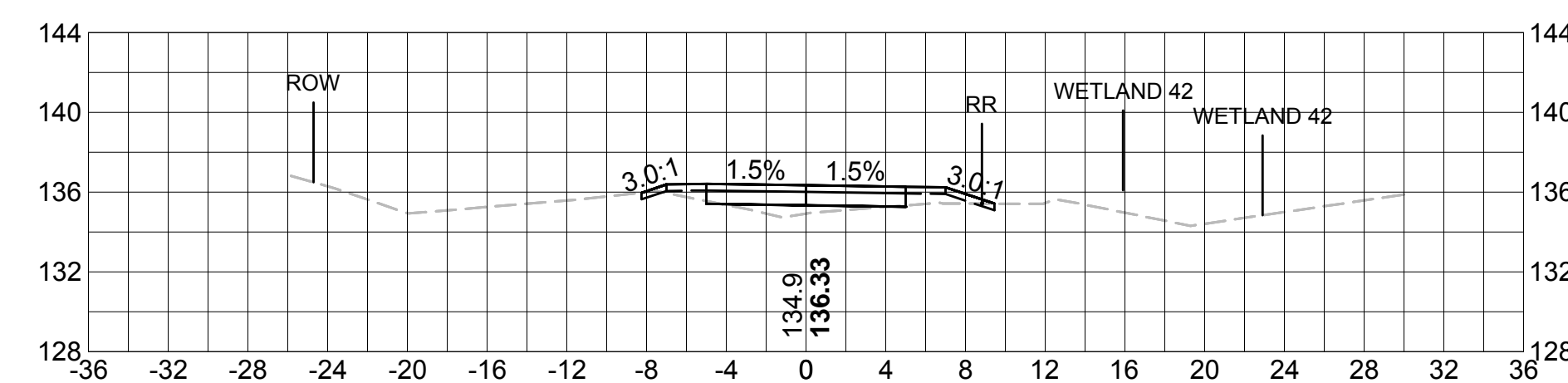
279+00



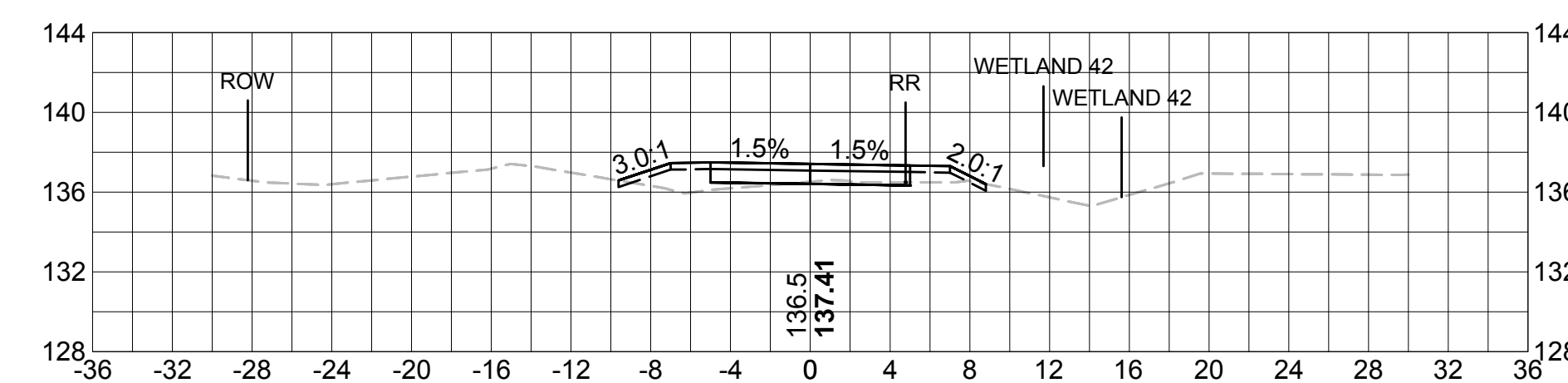
281+00



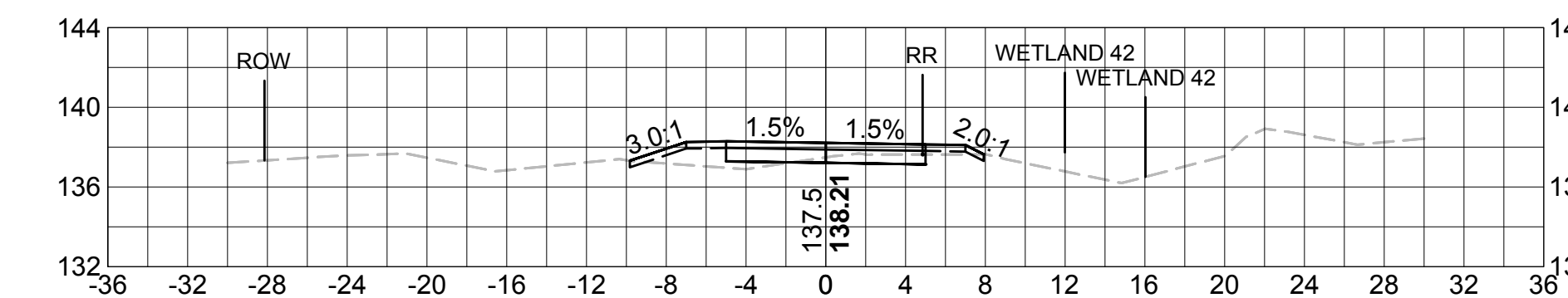
276+50



278+50

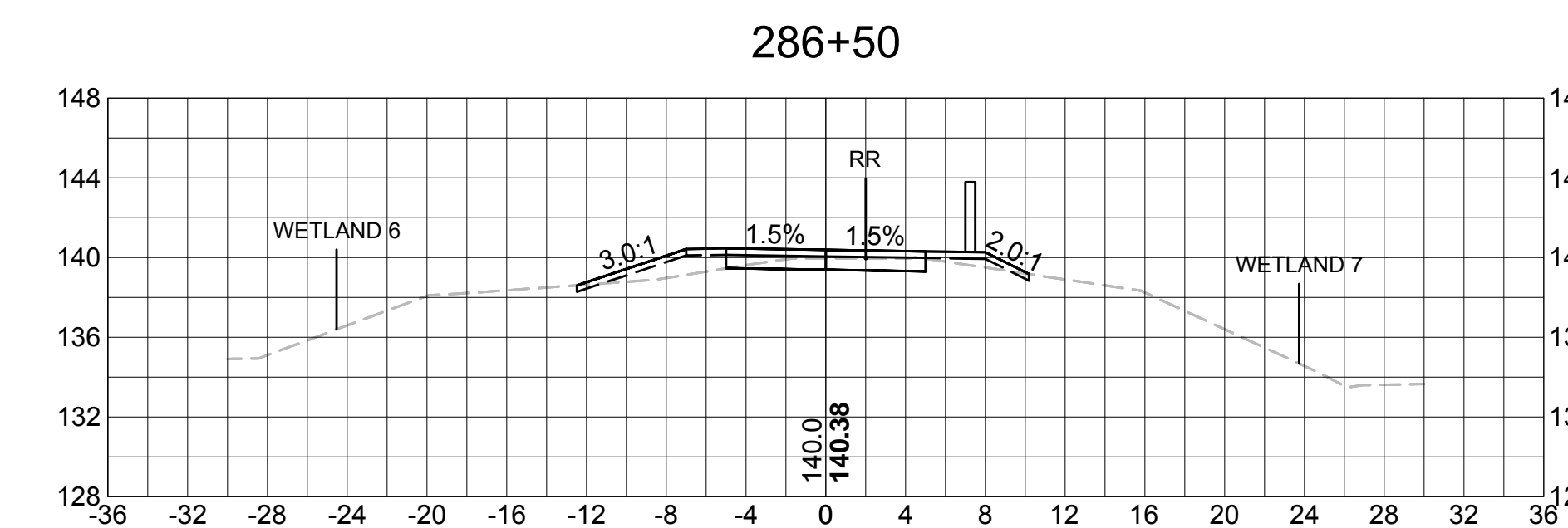
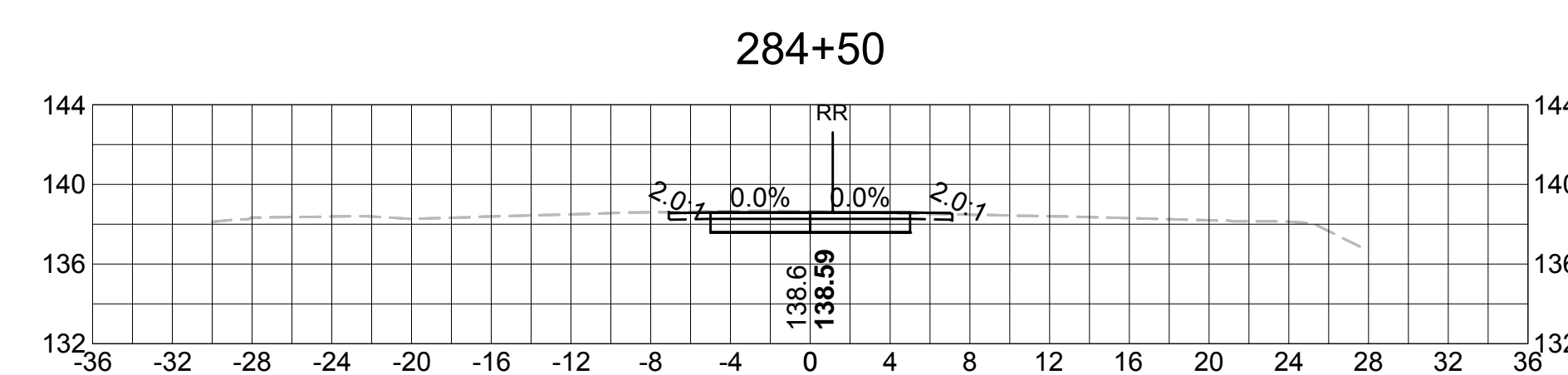
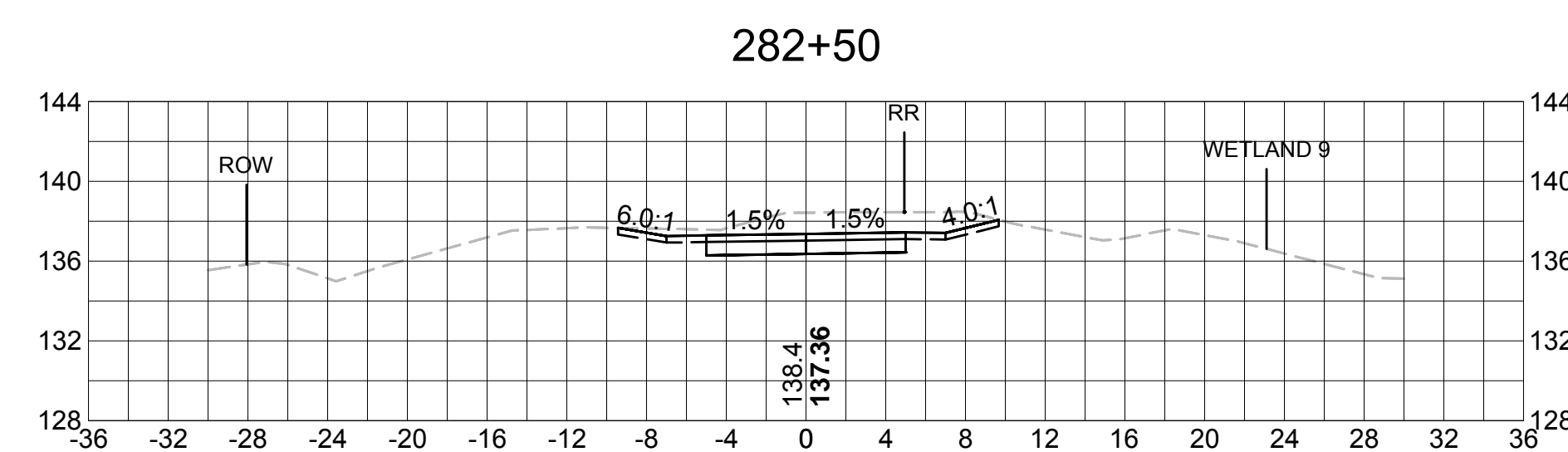
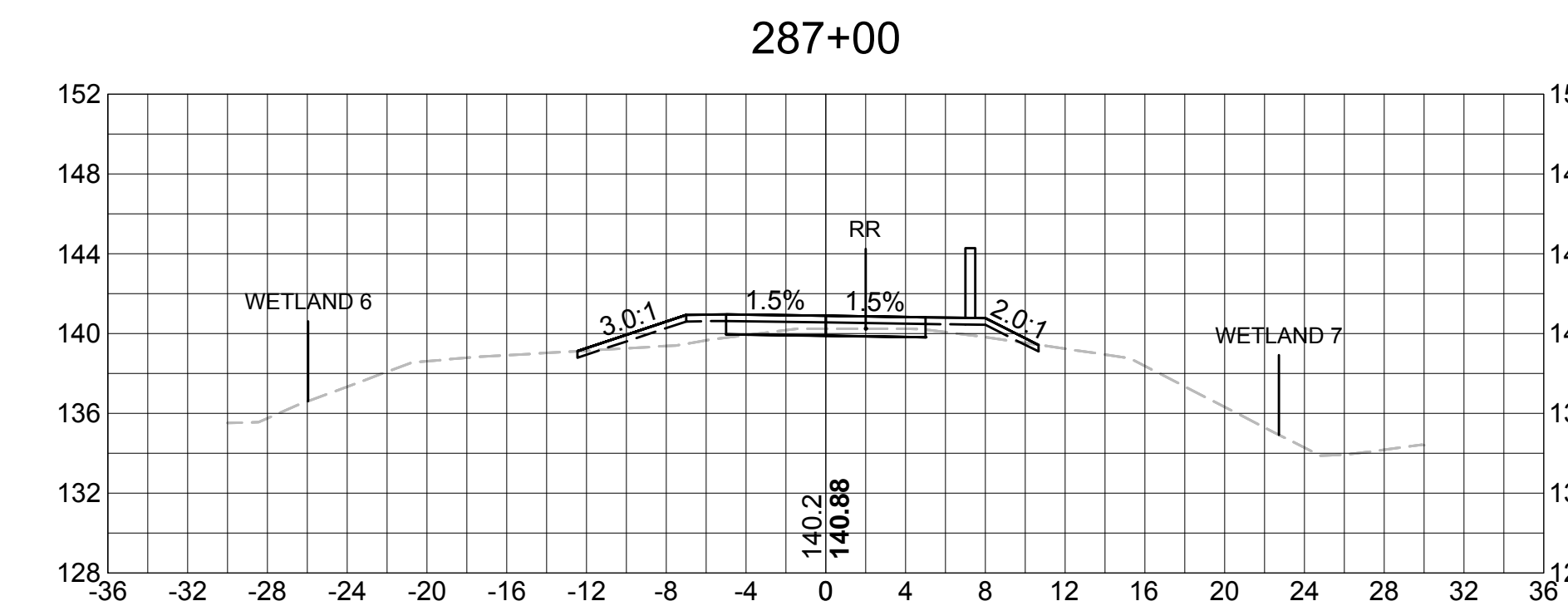
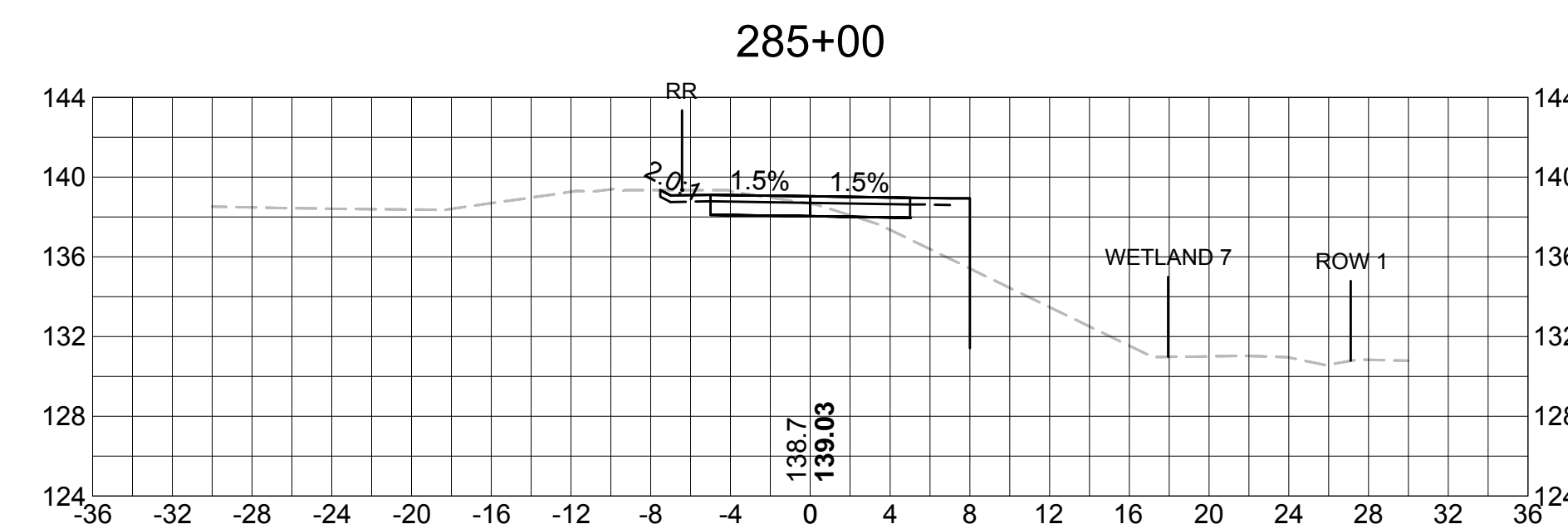
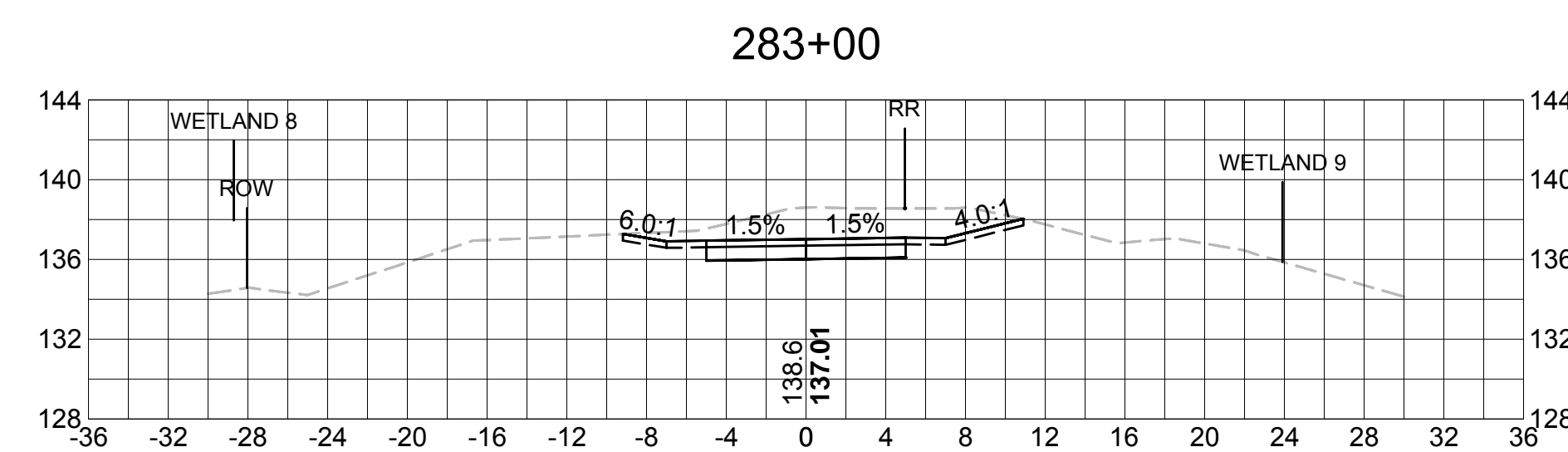
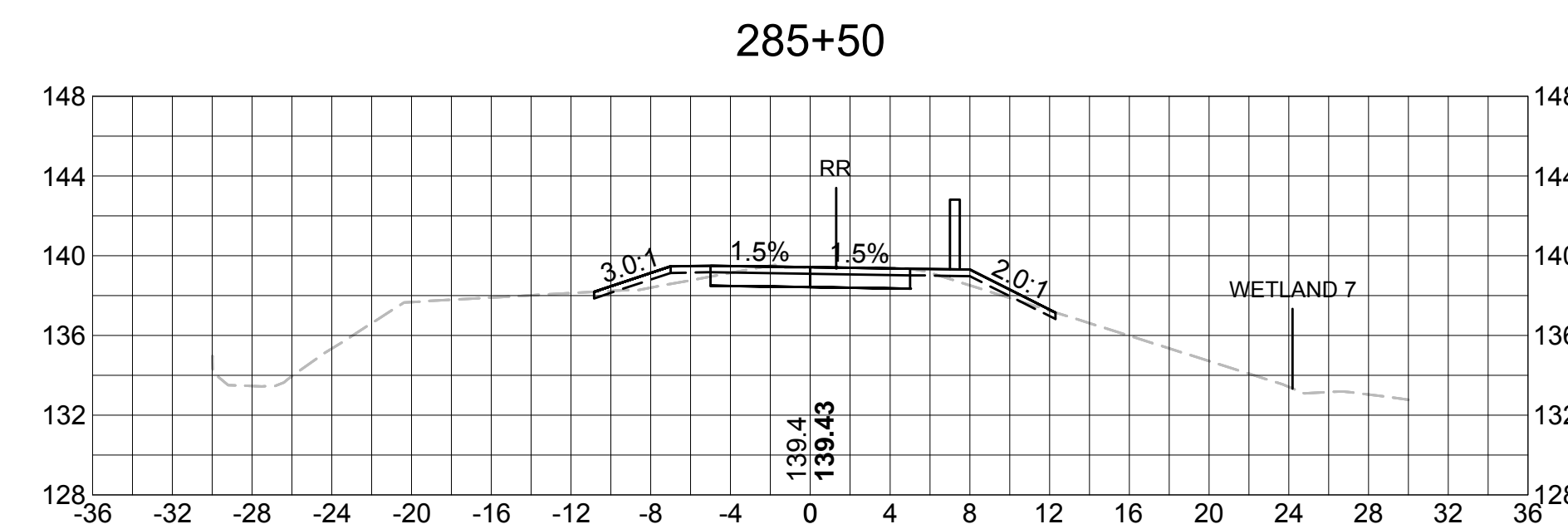
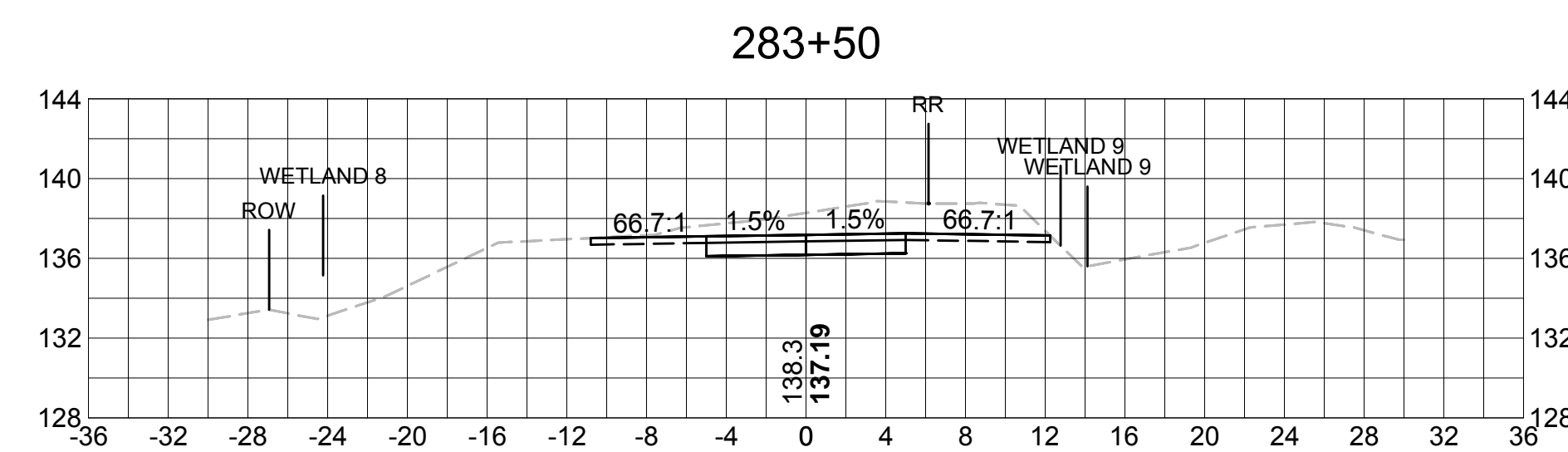
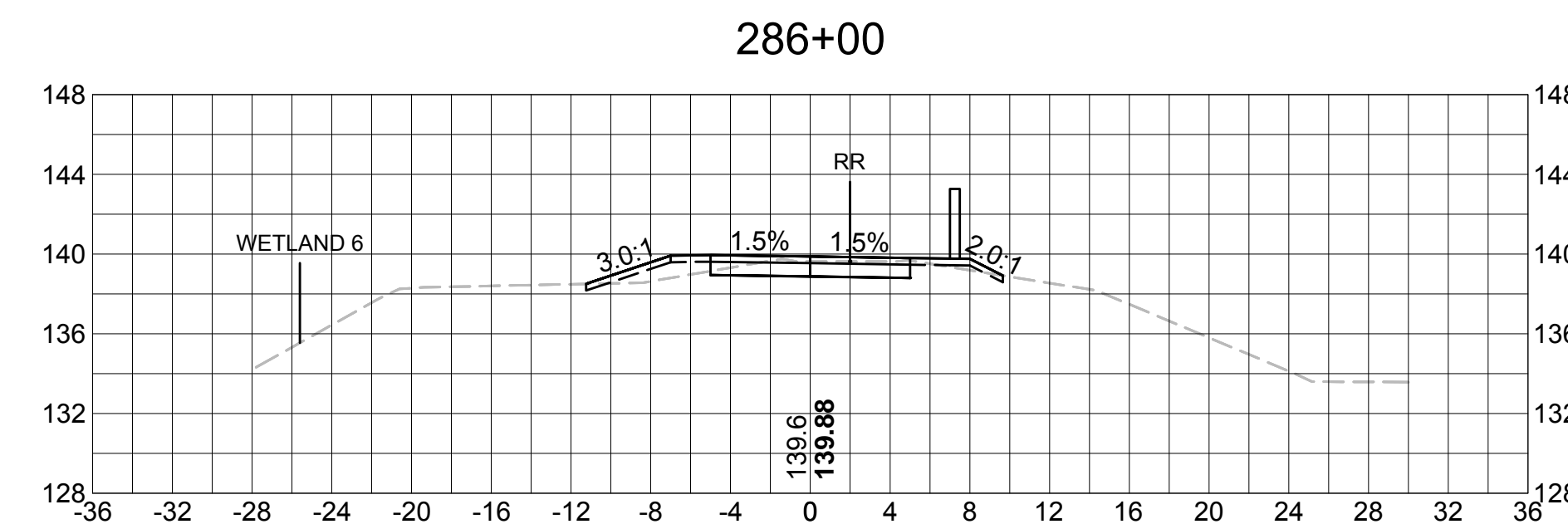
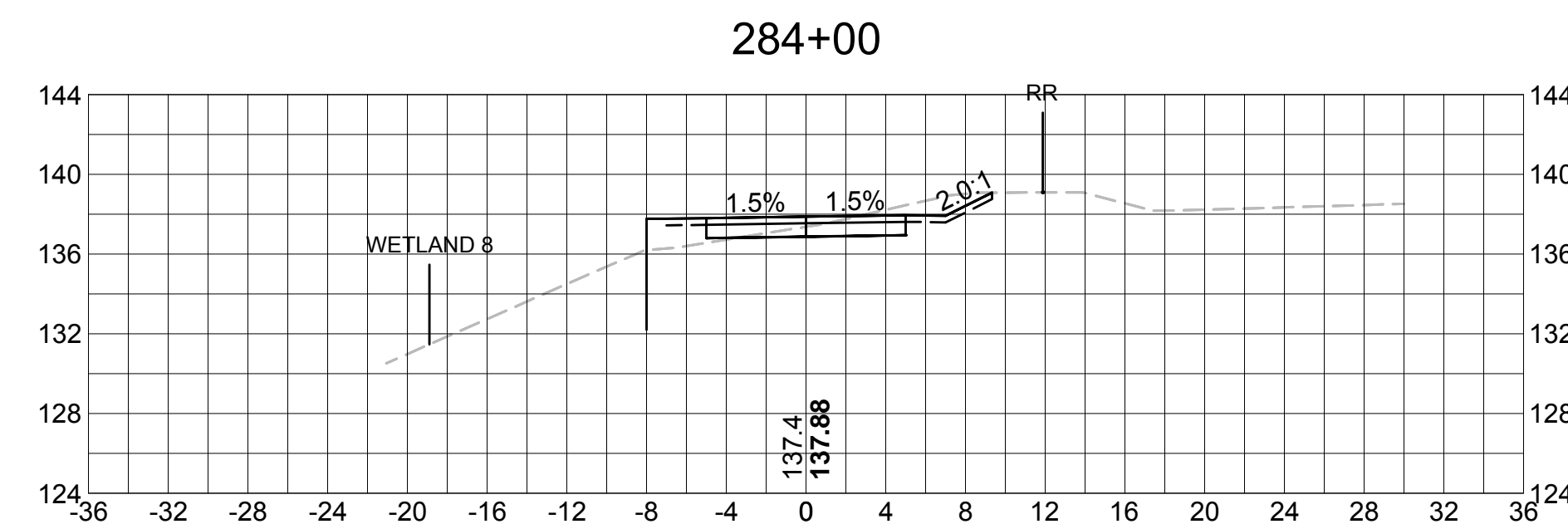


280+50



SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	113	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

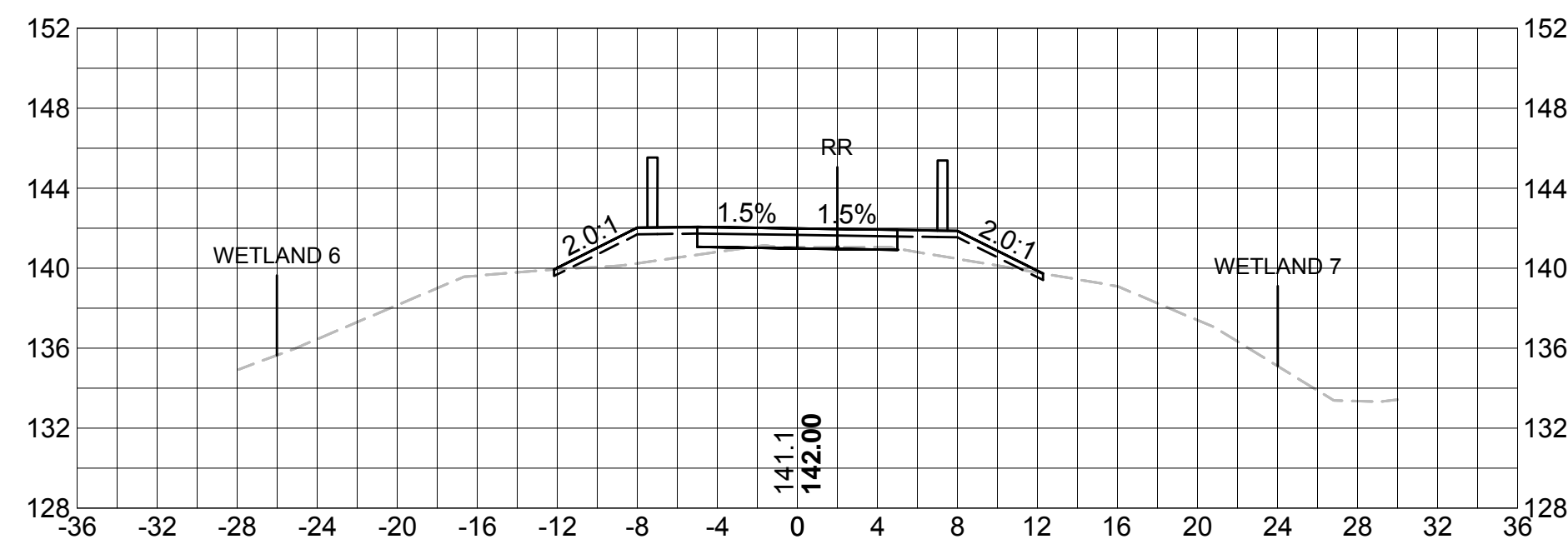


SUDBURY
BRUCE FREEMAN RAIL TRAIL

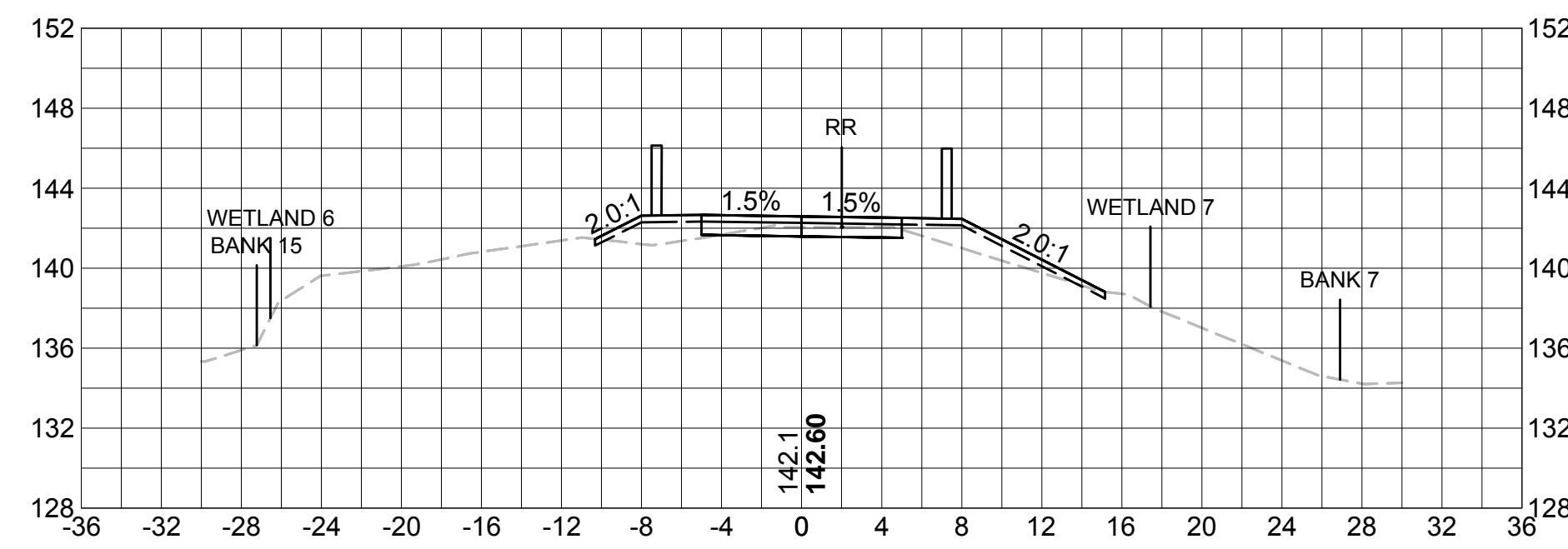
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	114	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

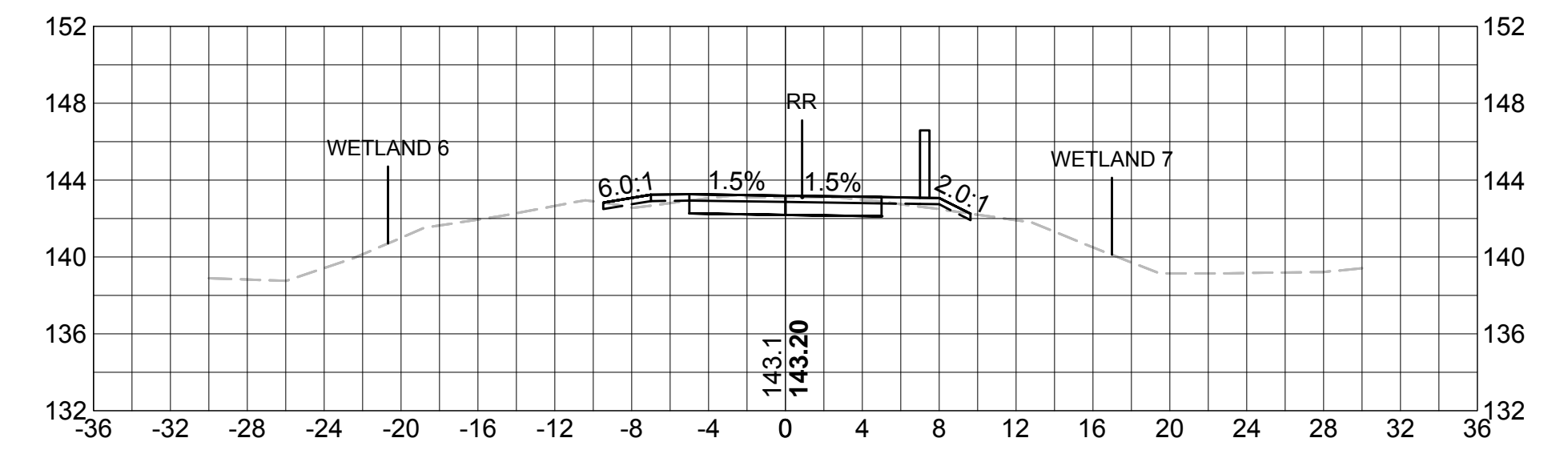
288+50



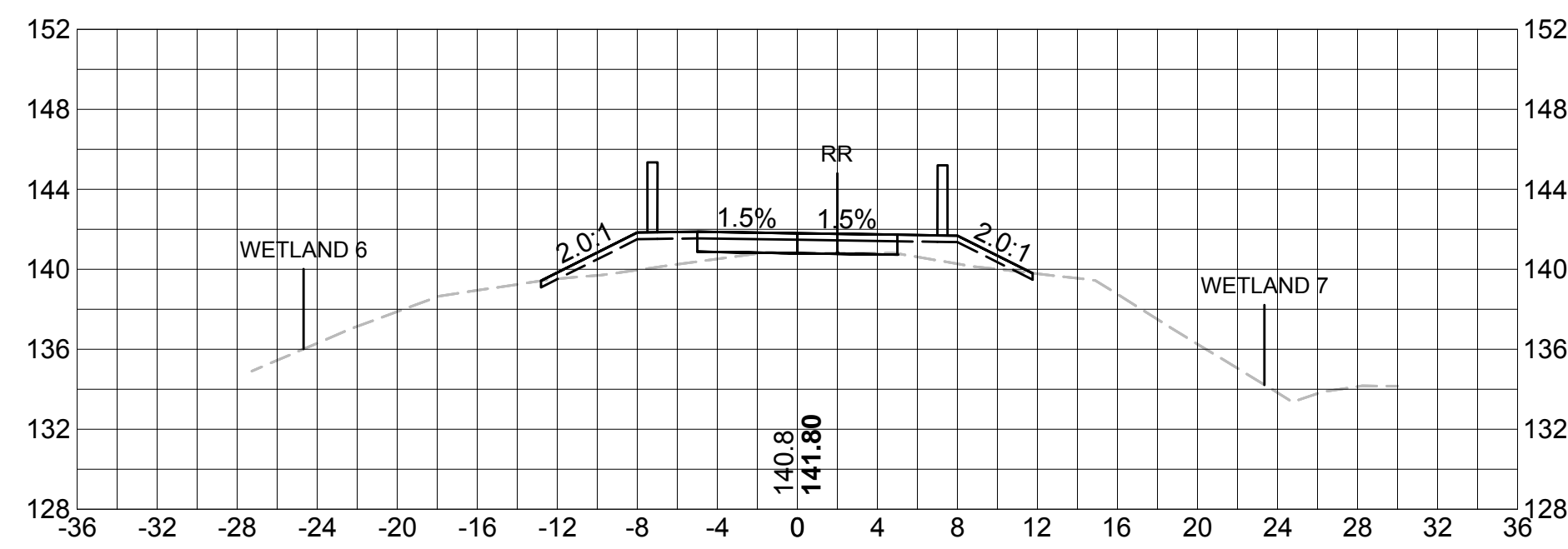
290+00



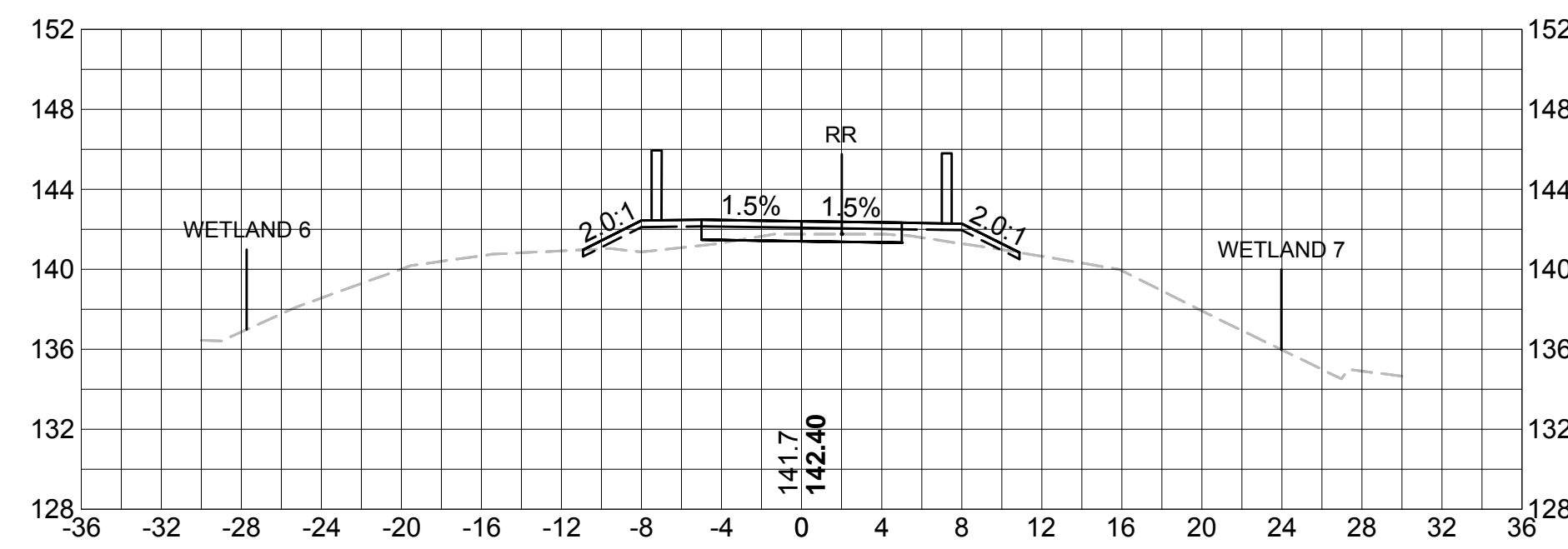
291+50



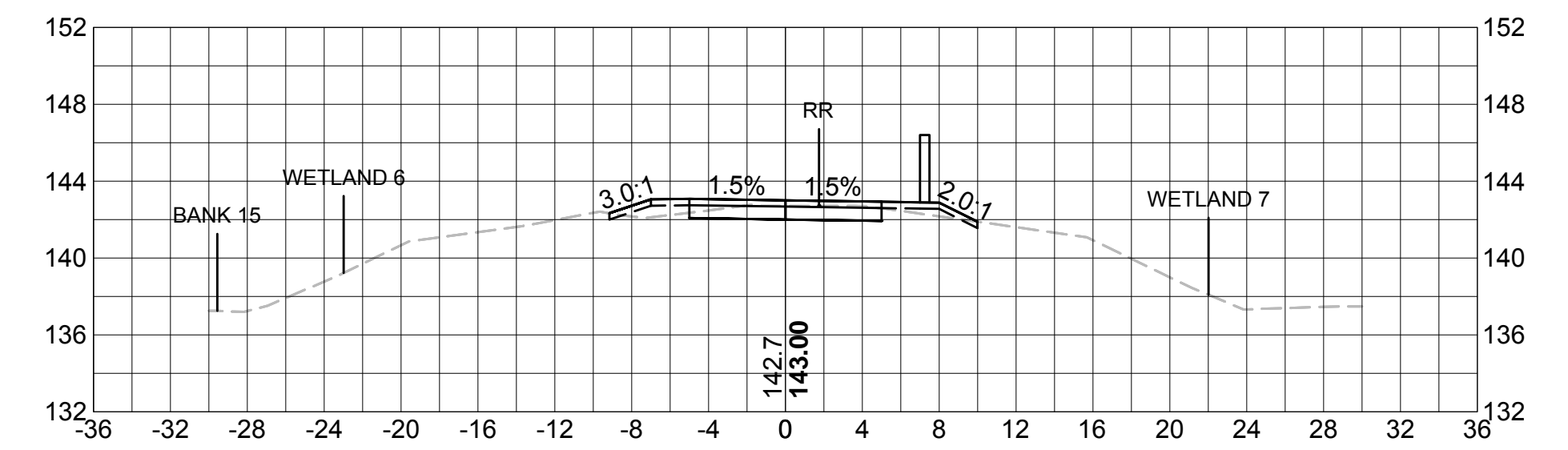
288+00



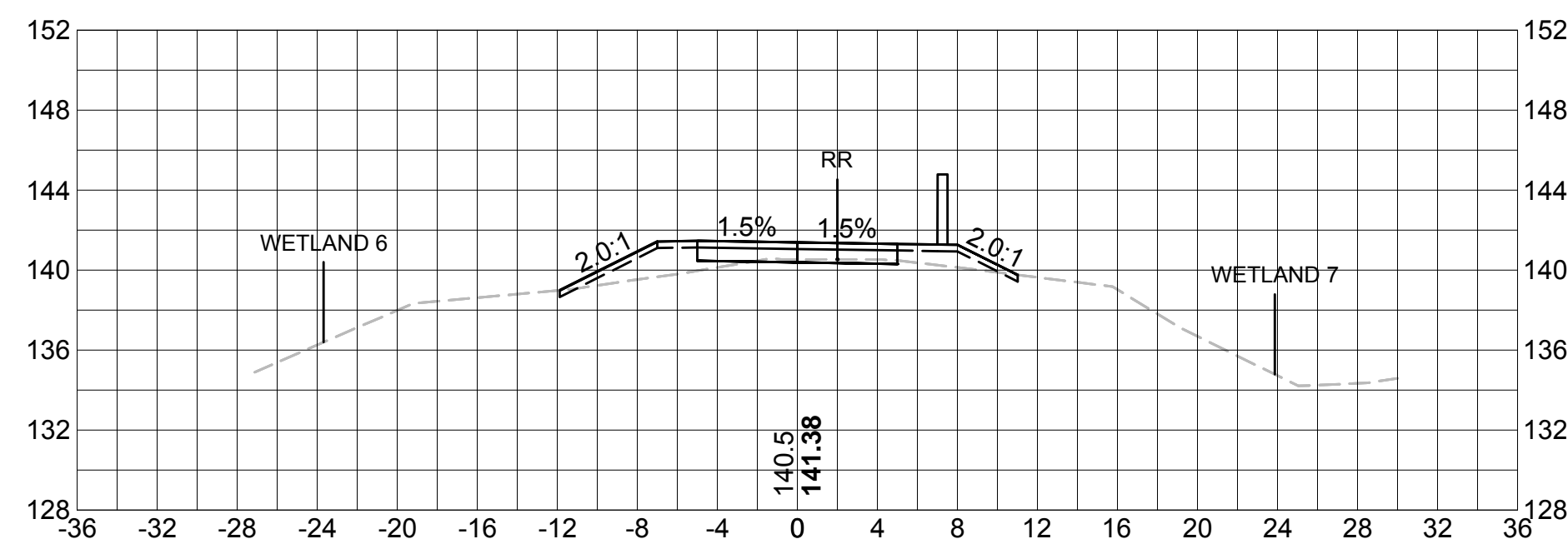
289+50



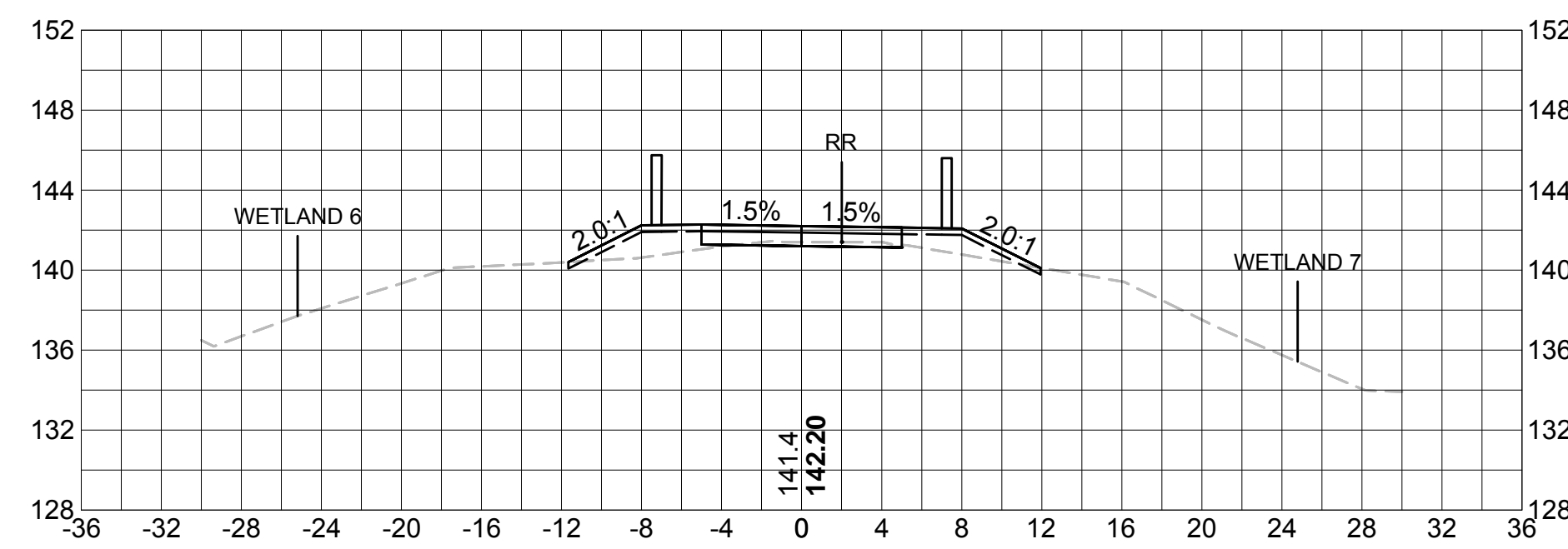
291+00



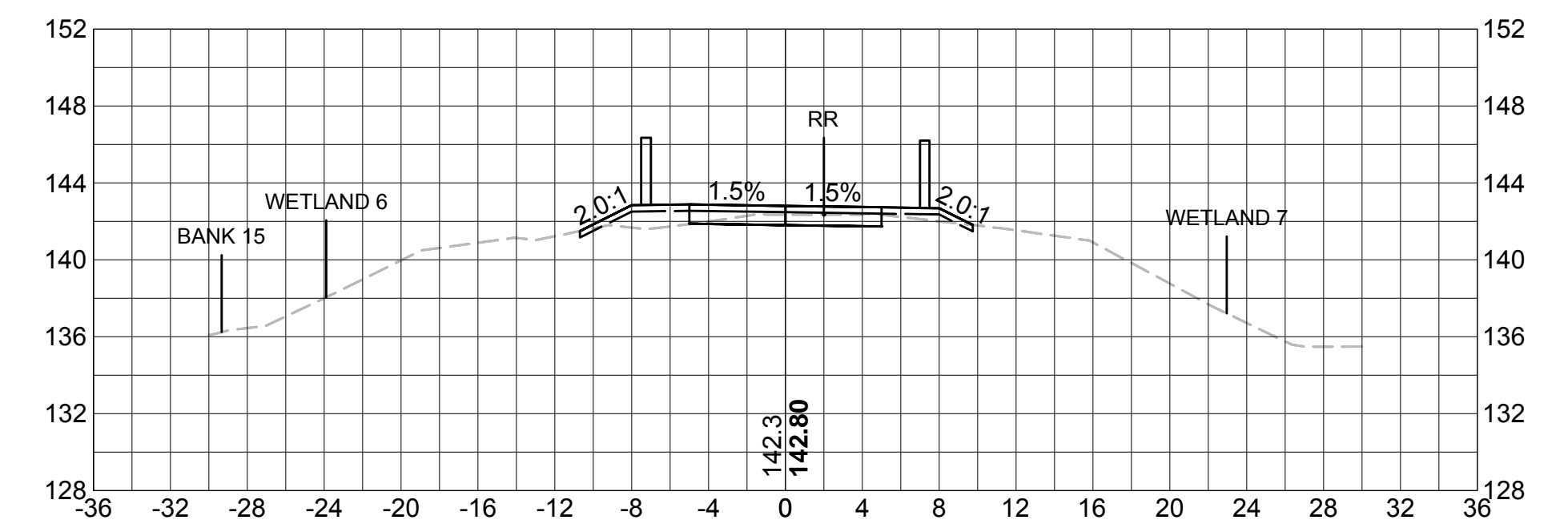
287+50



289+00



290+50

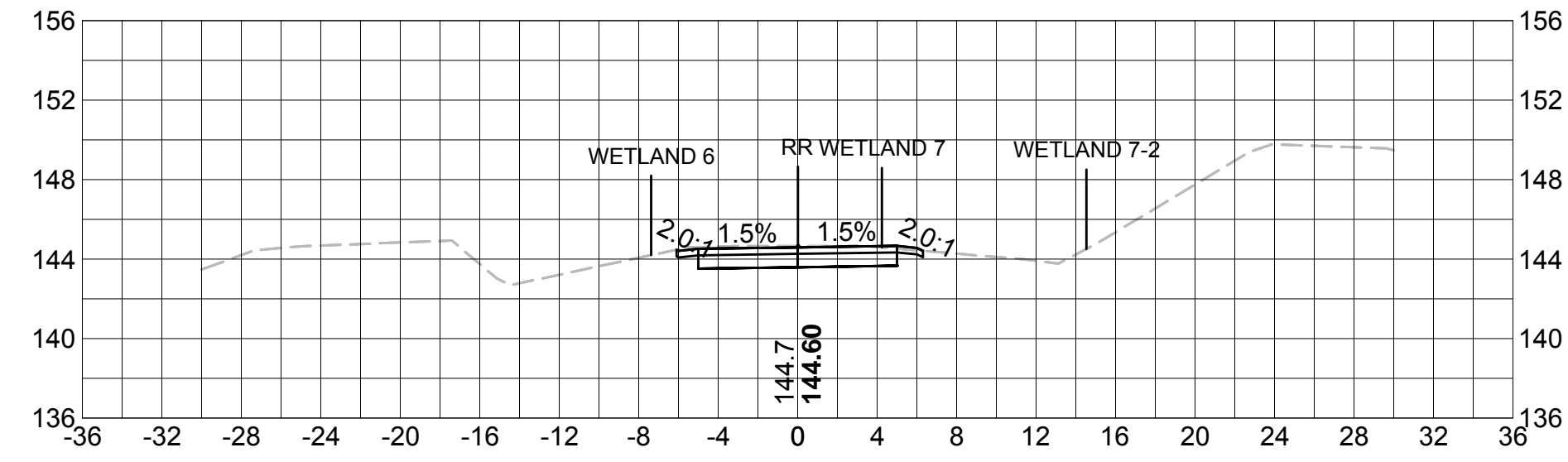


SUDBURY
BRUCE FREEMAN RAIL TRAIL

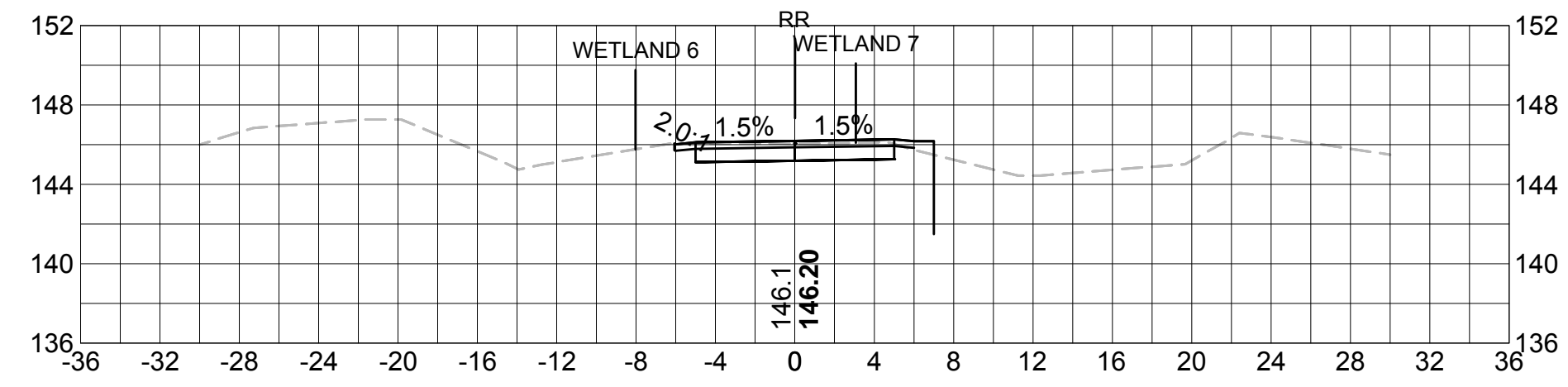
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	115	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

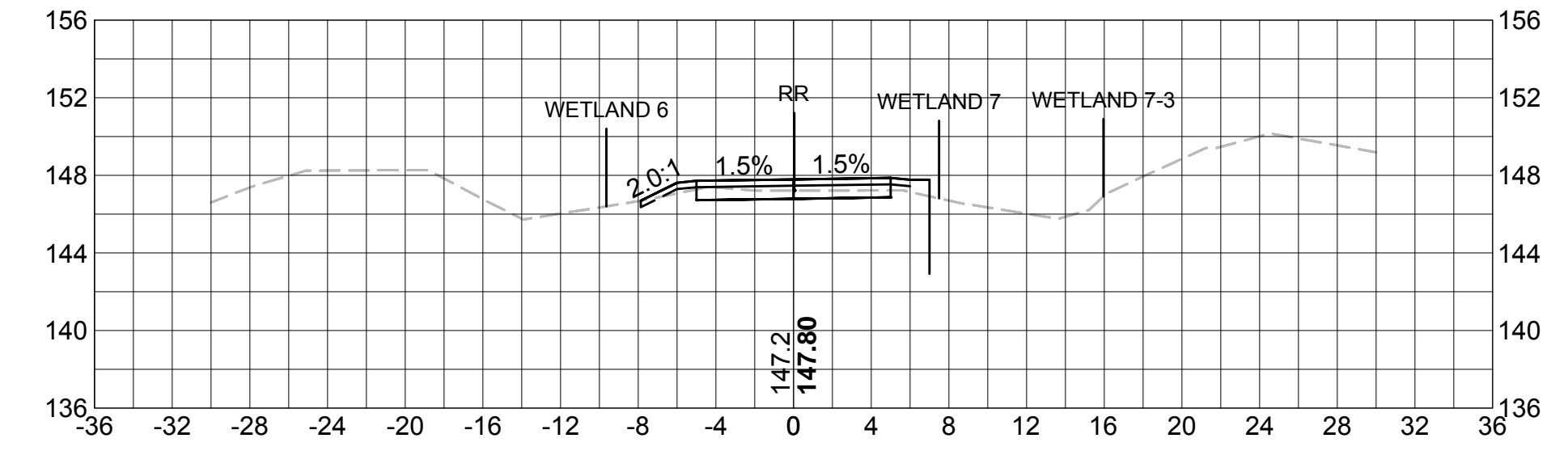
293+50



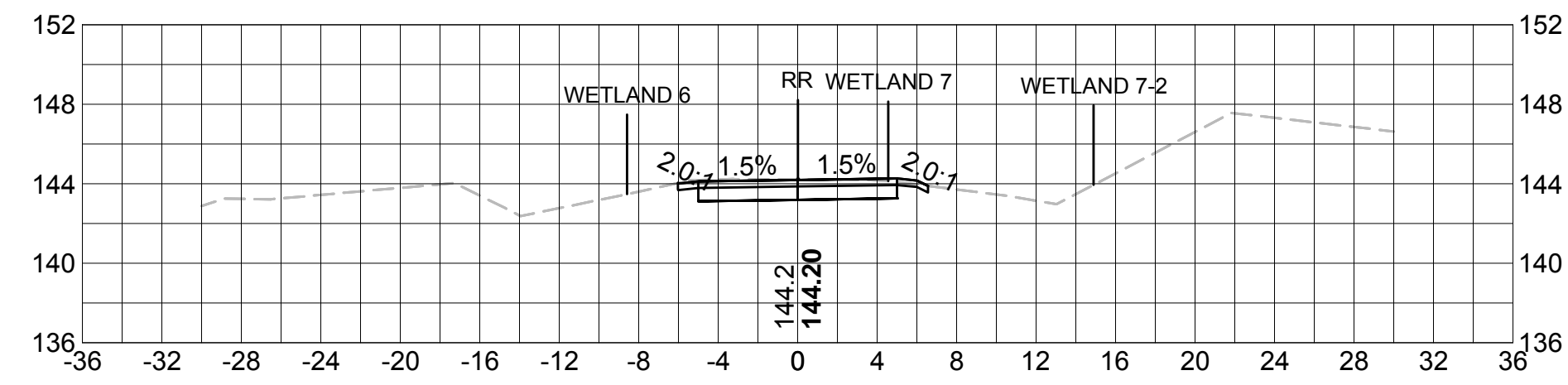
295+50



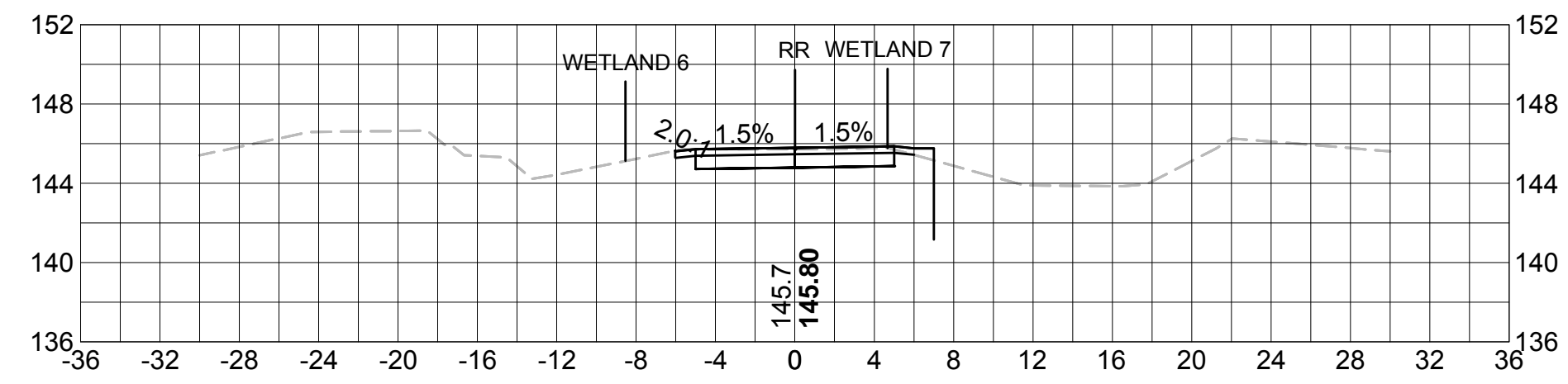
297+50



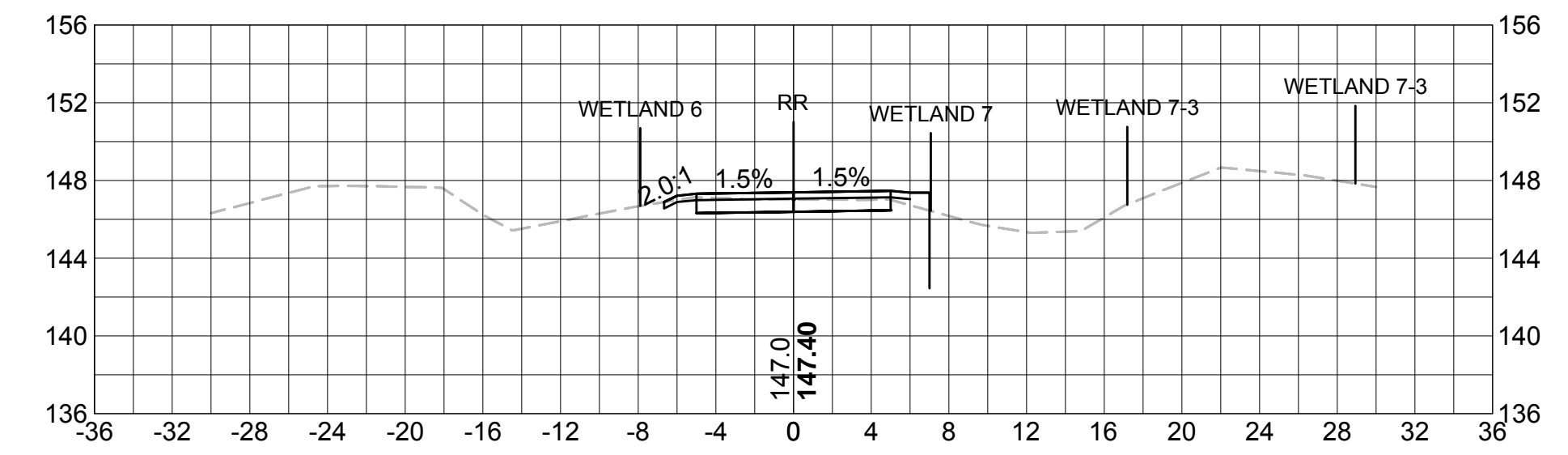
293+00



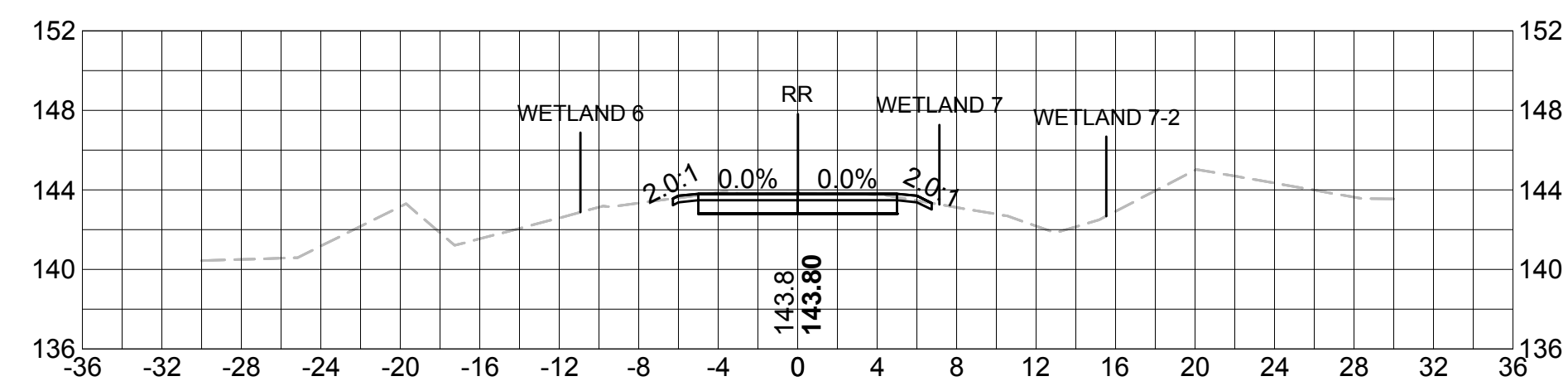
295+00



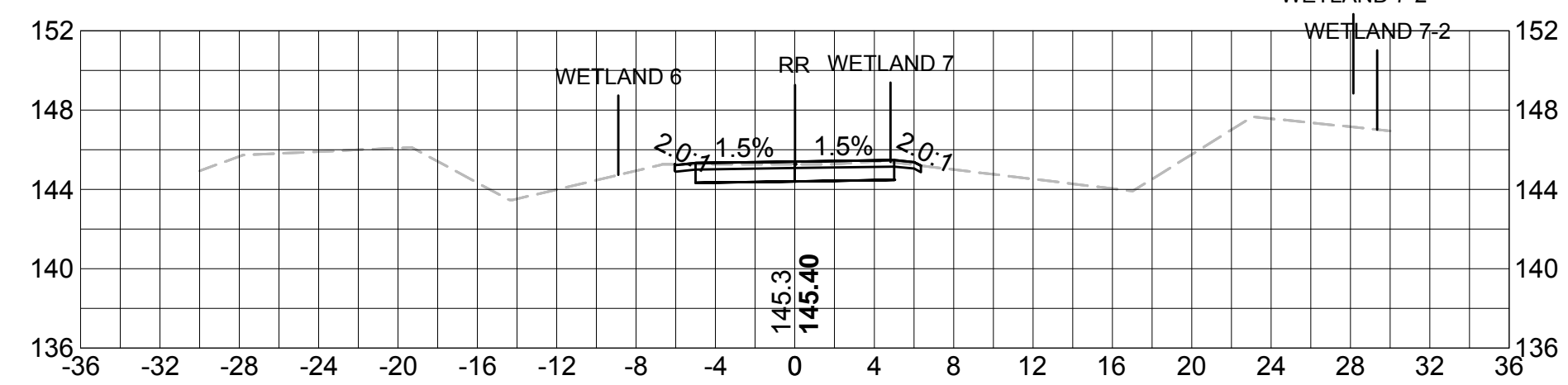
297+00



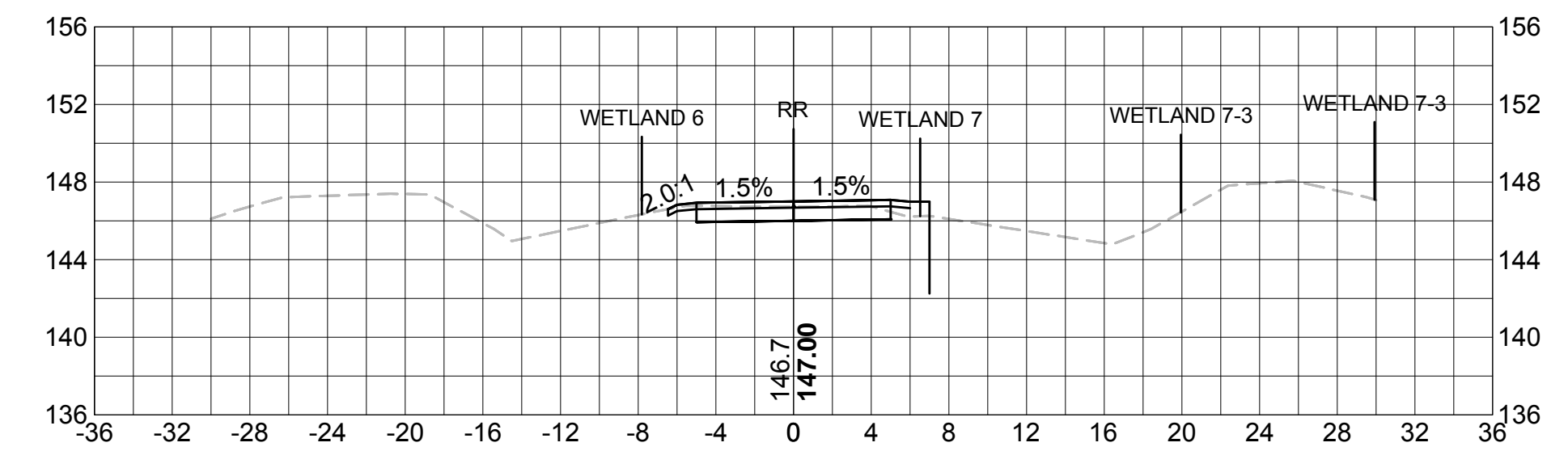
292+50



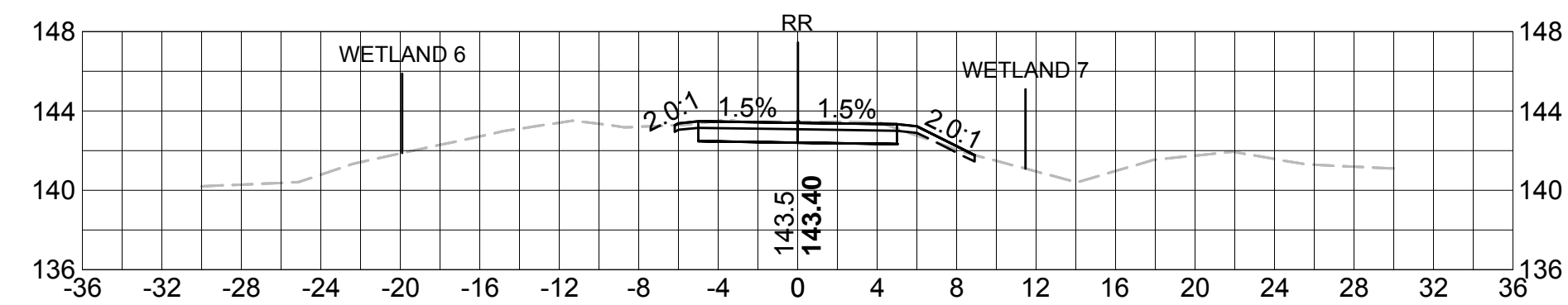
294+50



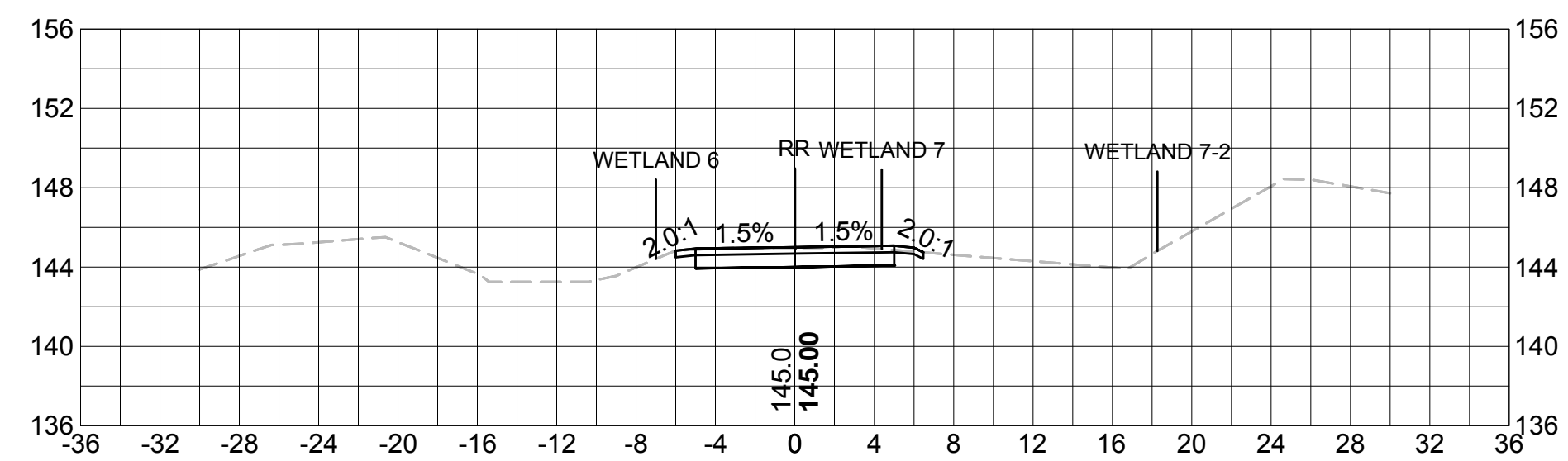
296+50



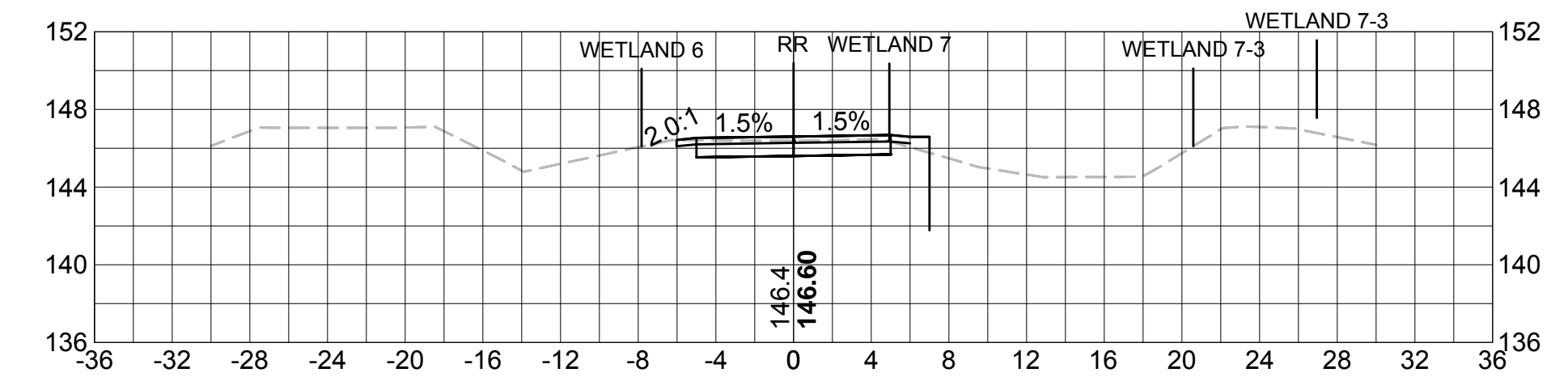
292+00



294+00



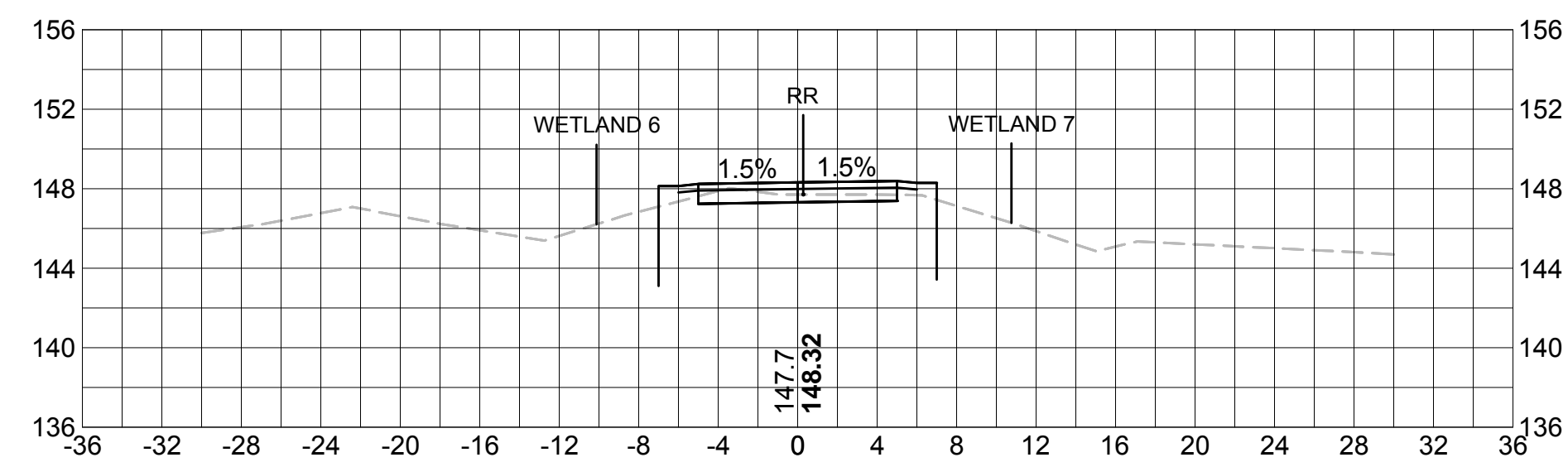
296+00



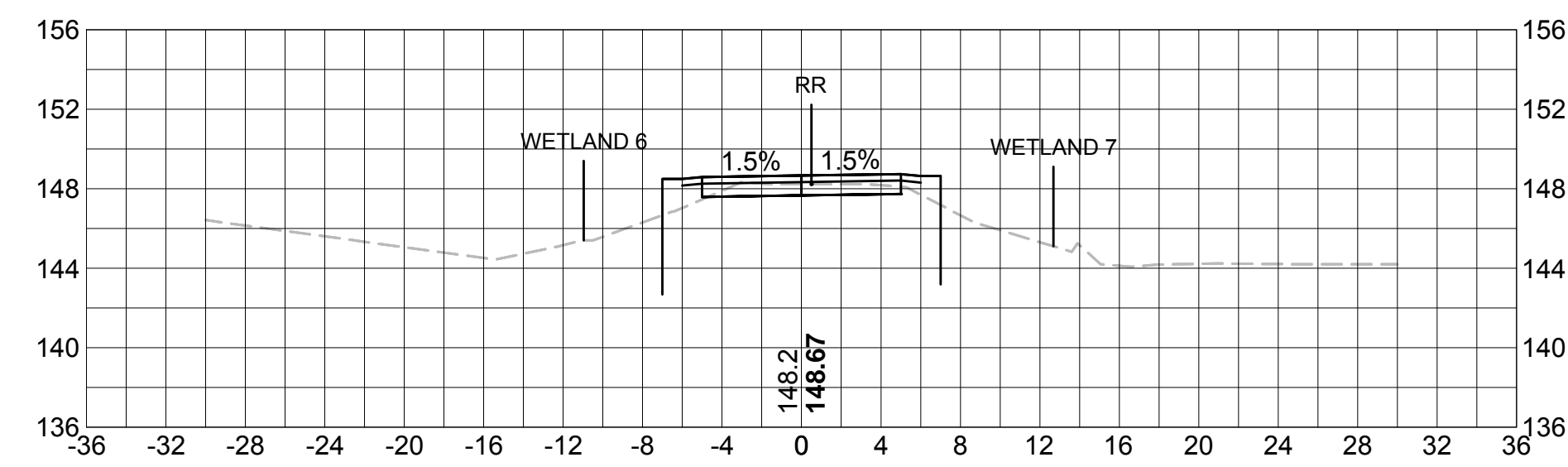
SUDBURY BRUCE FREEMAN RAIL TRAIL			
STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	116	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

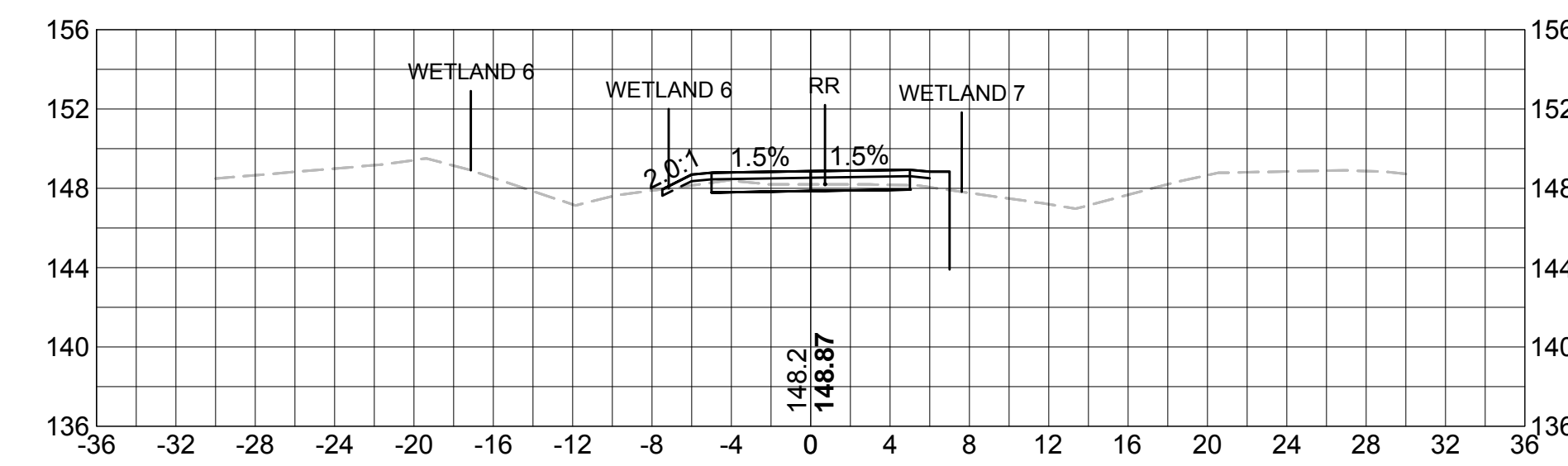
299+50



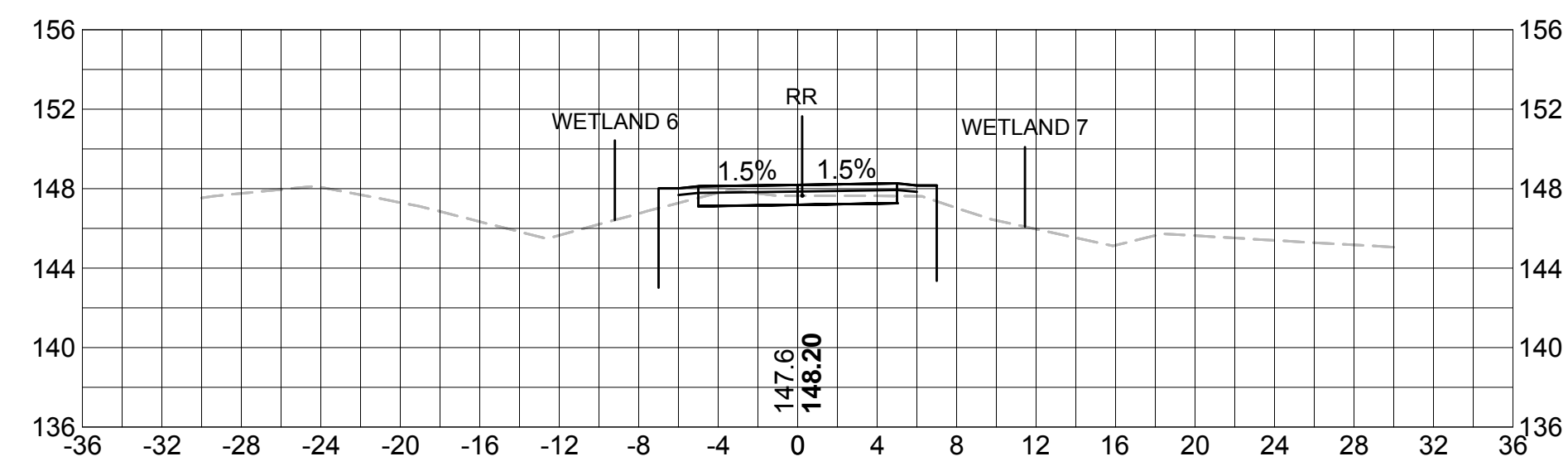
301+50



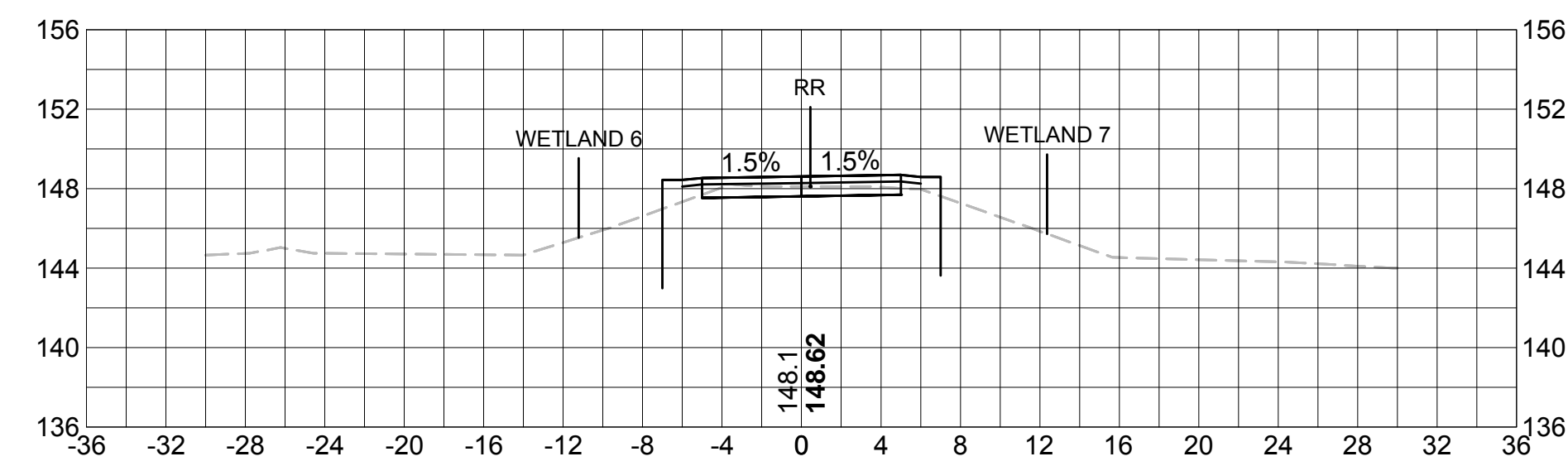
303+50



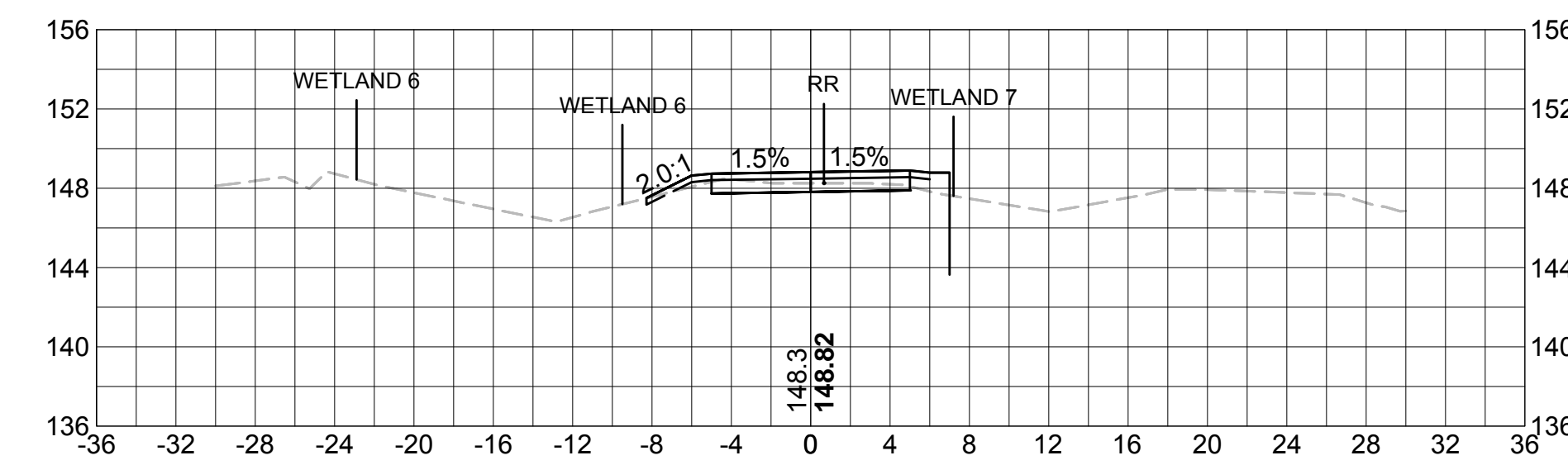
299+00



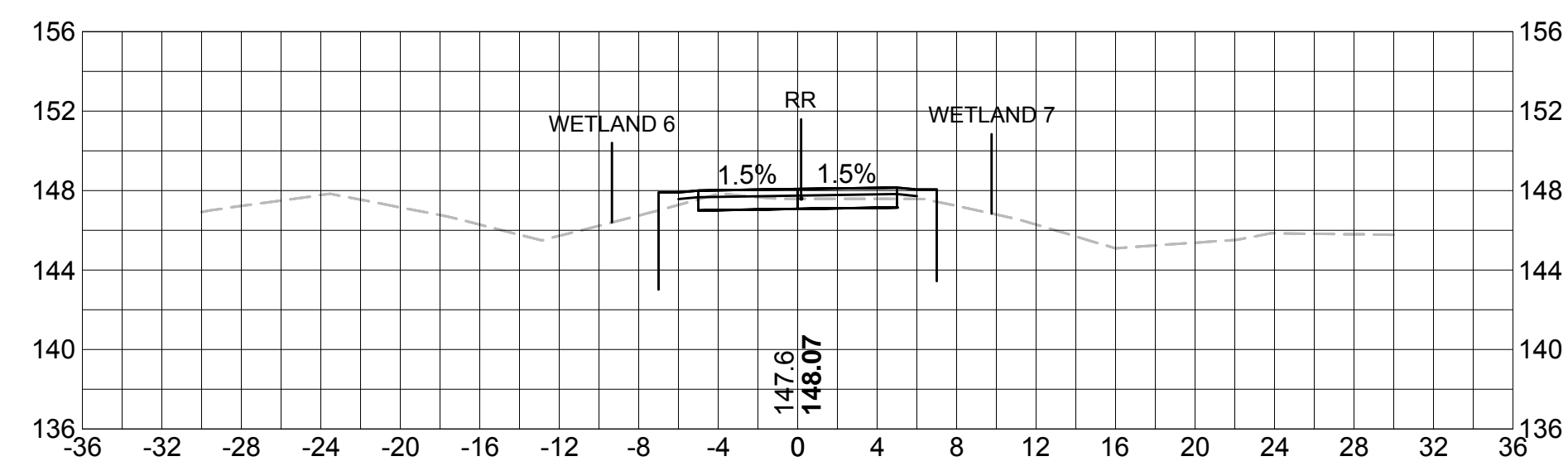
301+00



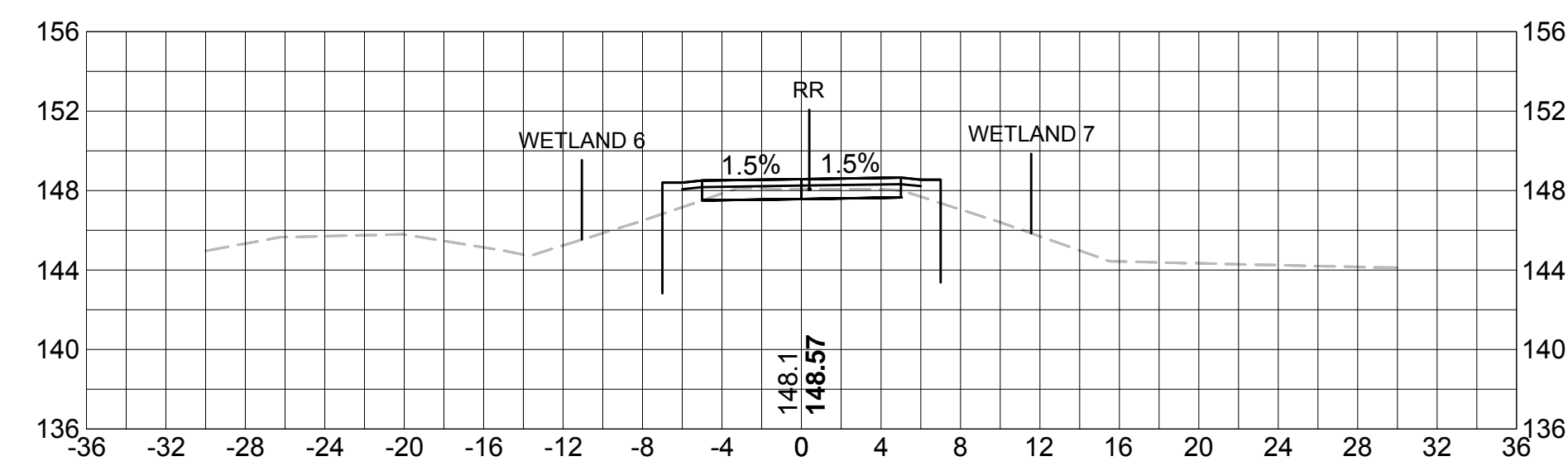
303+00



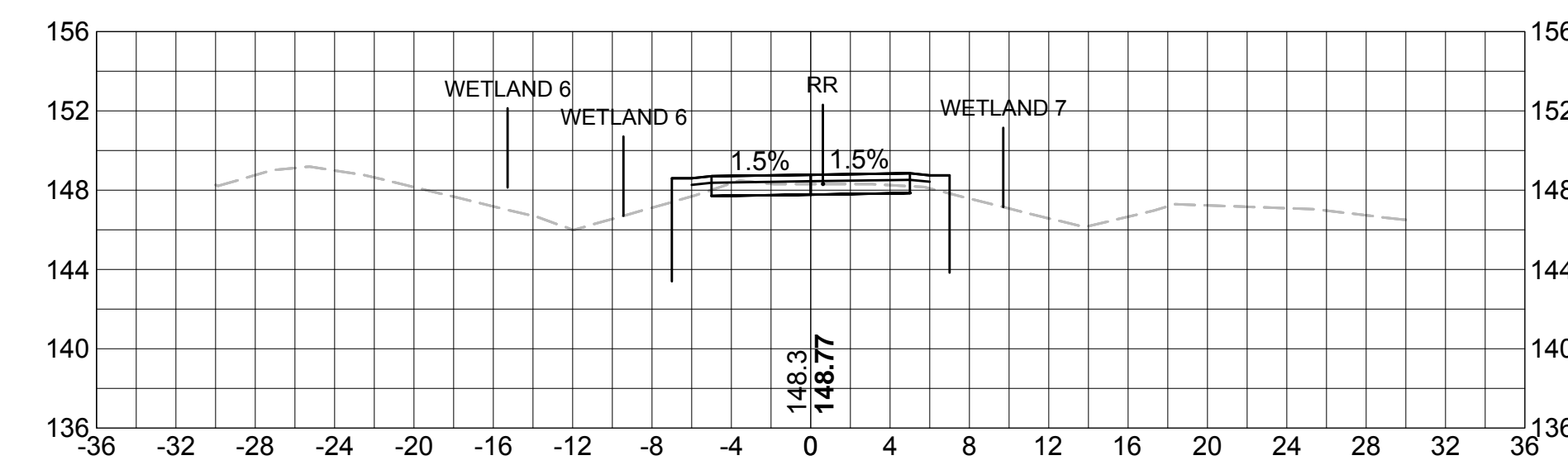
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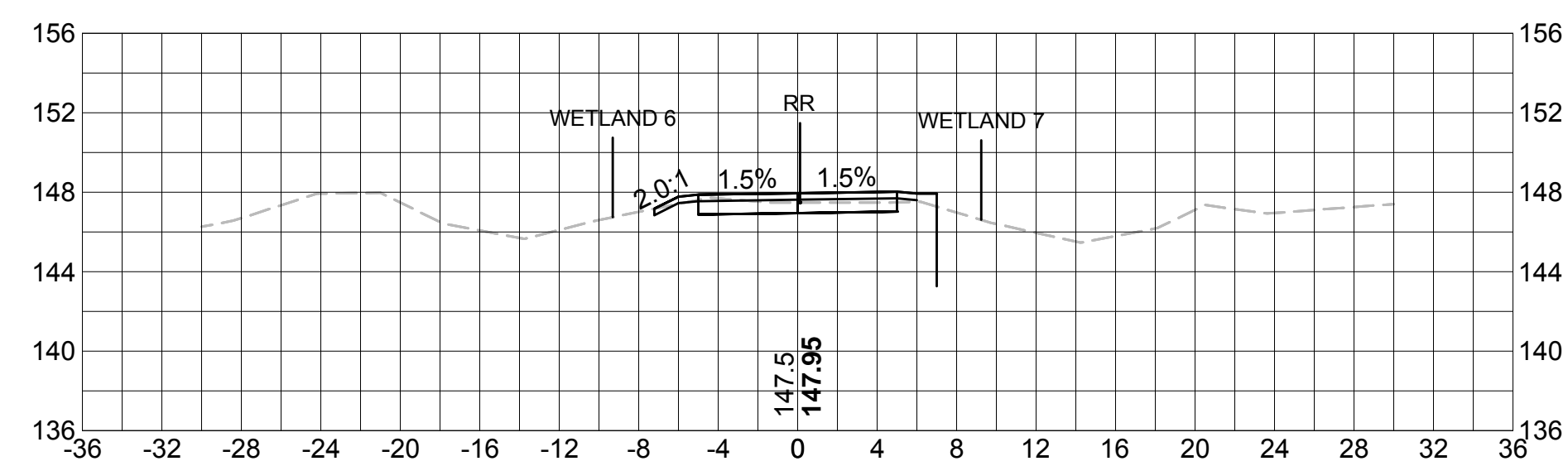
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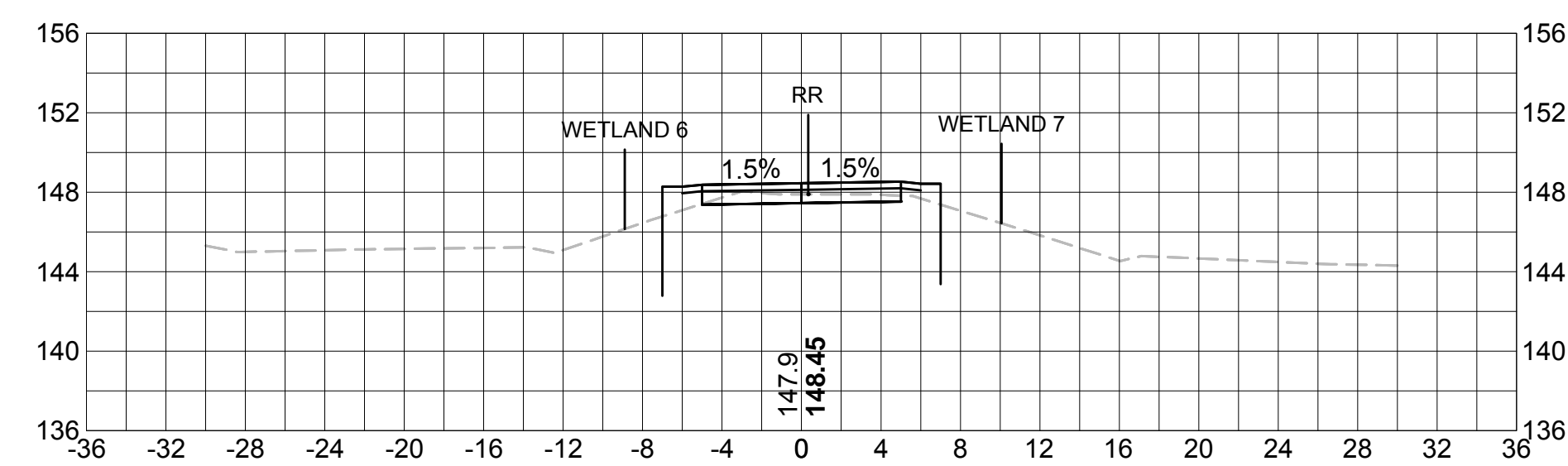
302+50



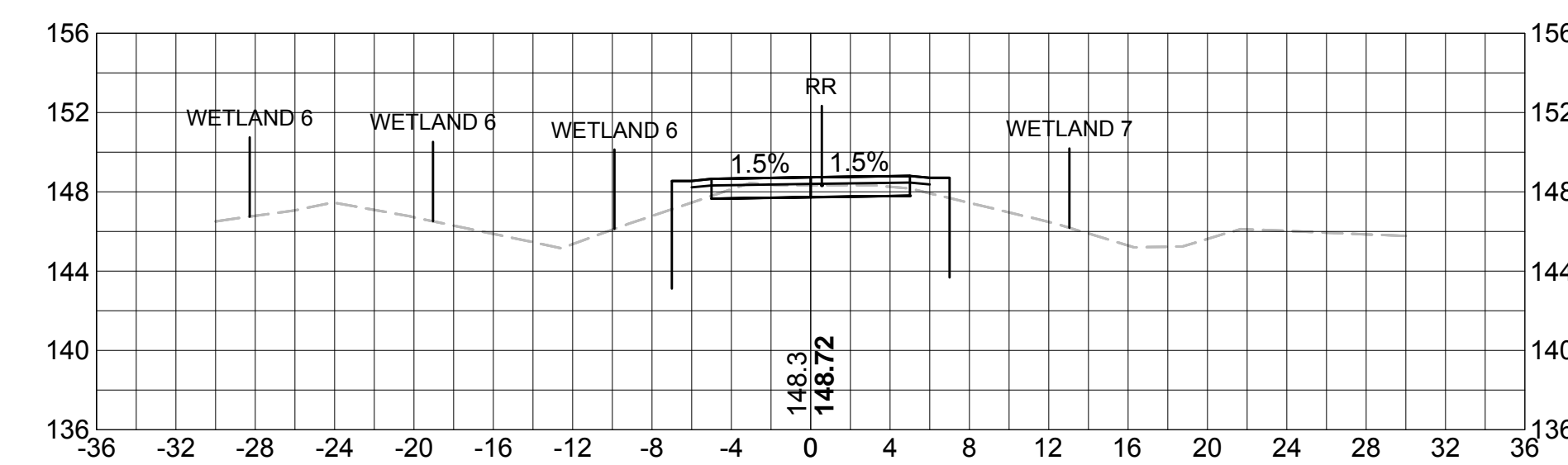
298+00



300+00



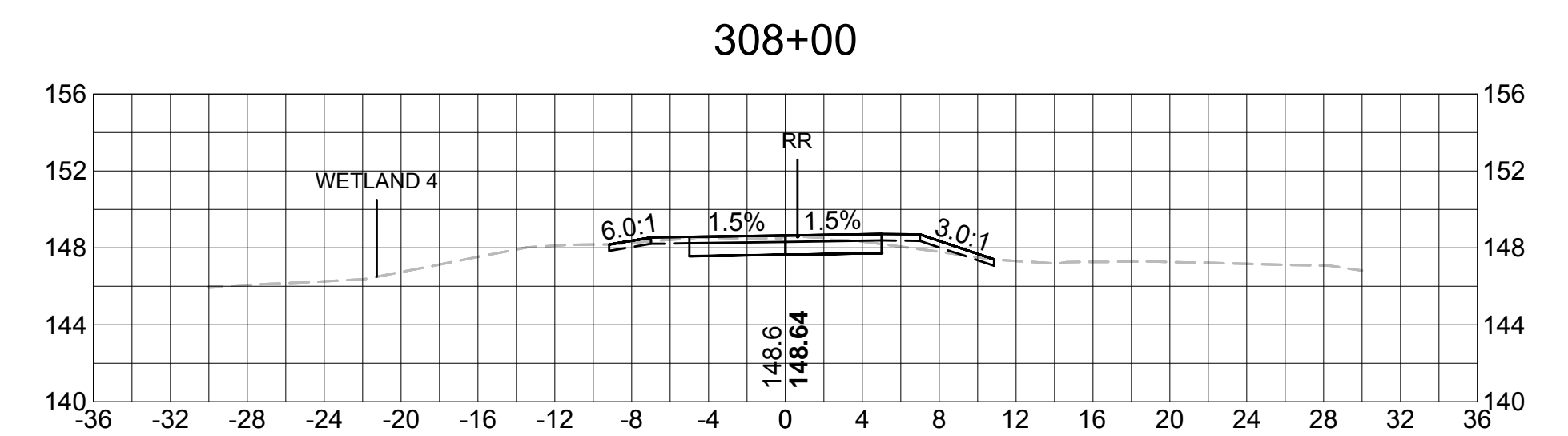
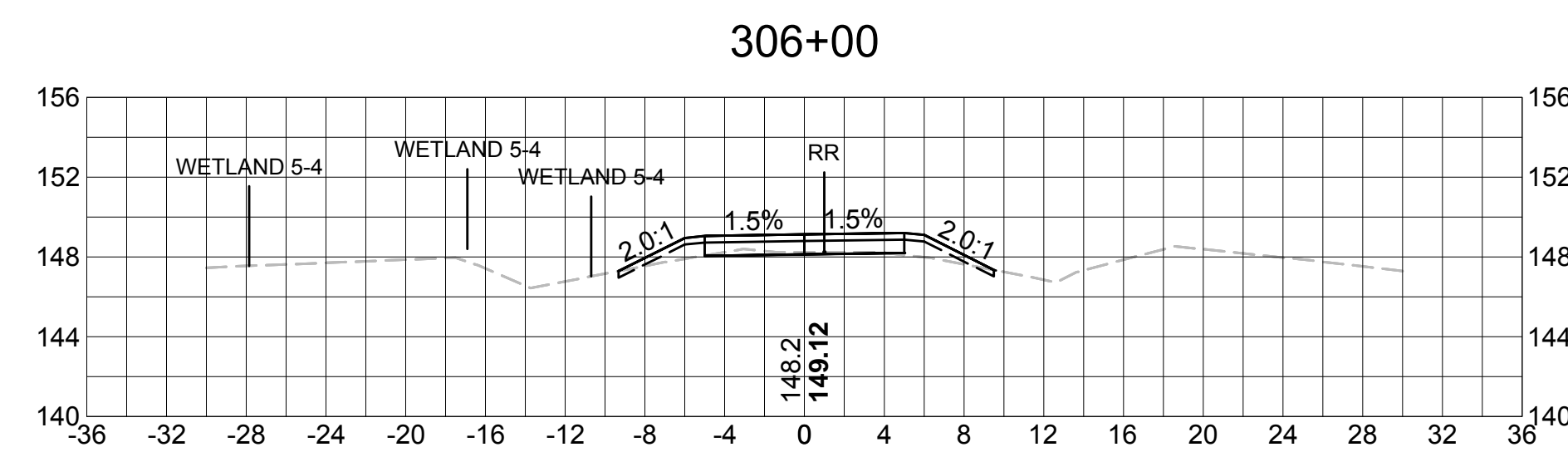
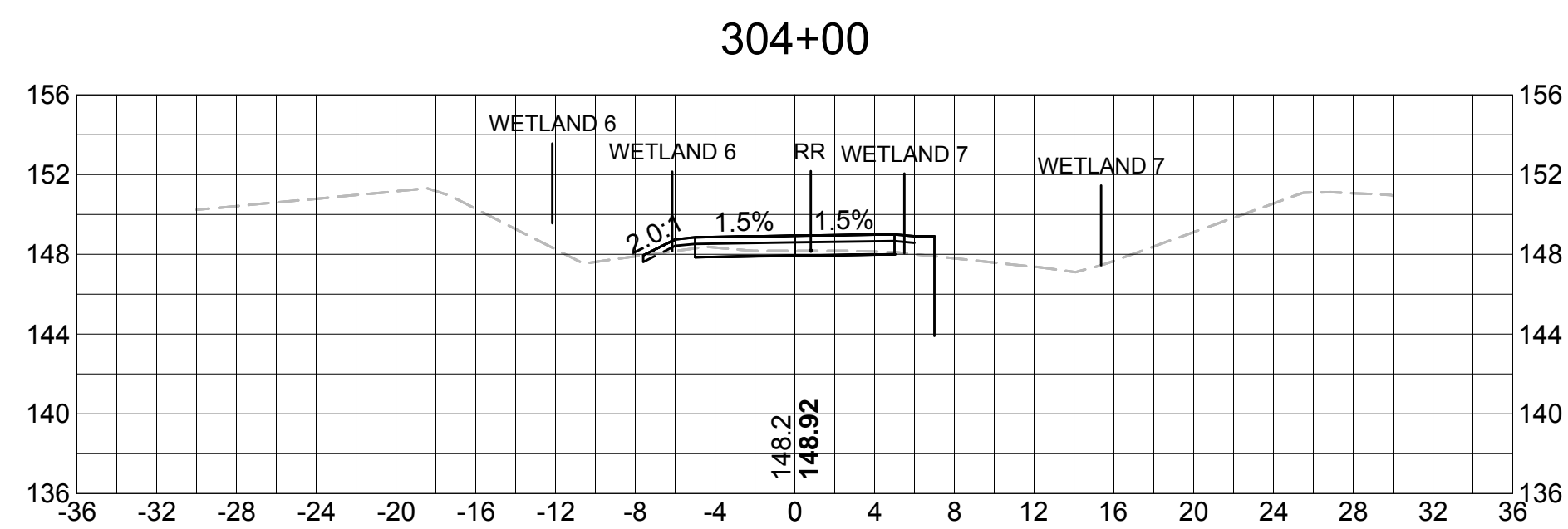
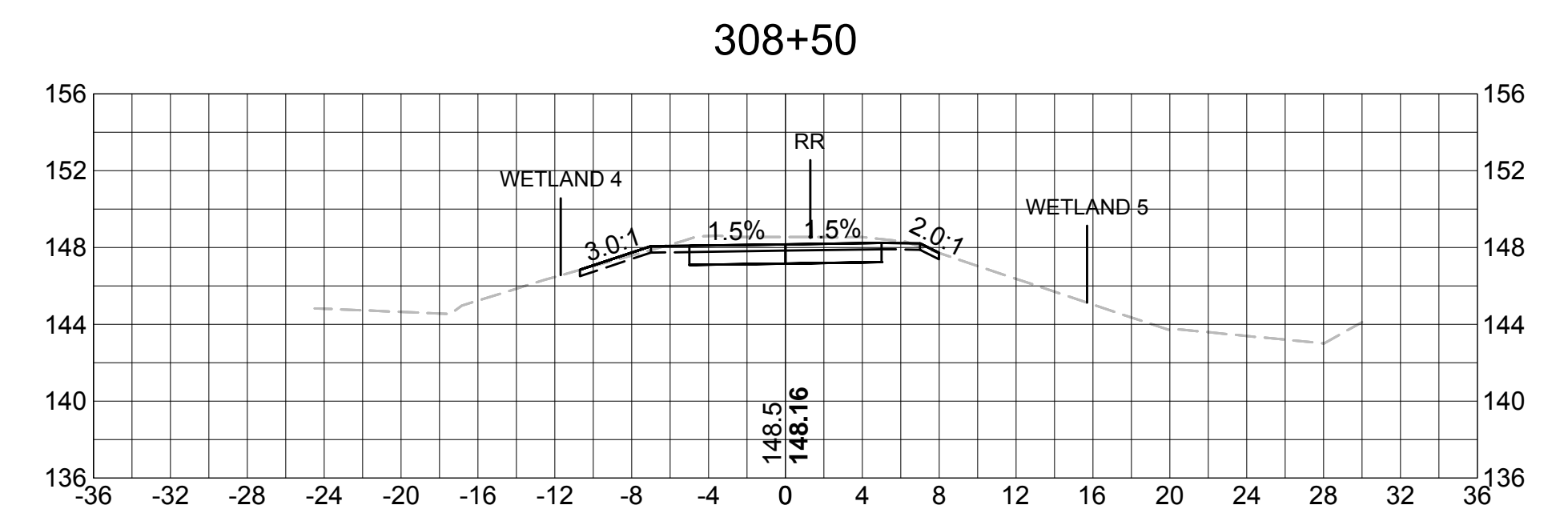
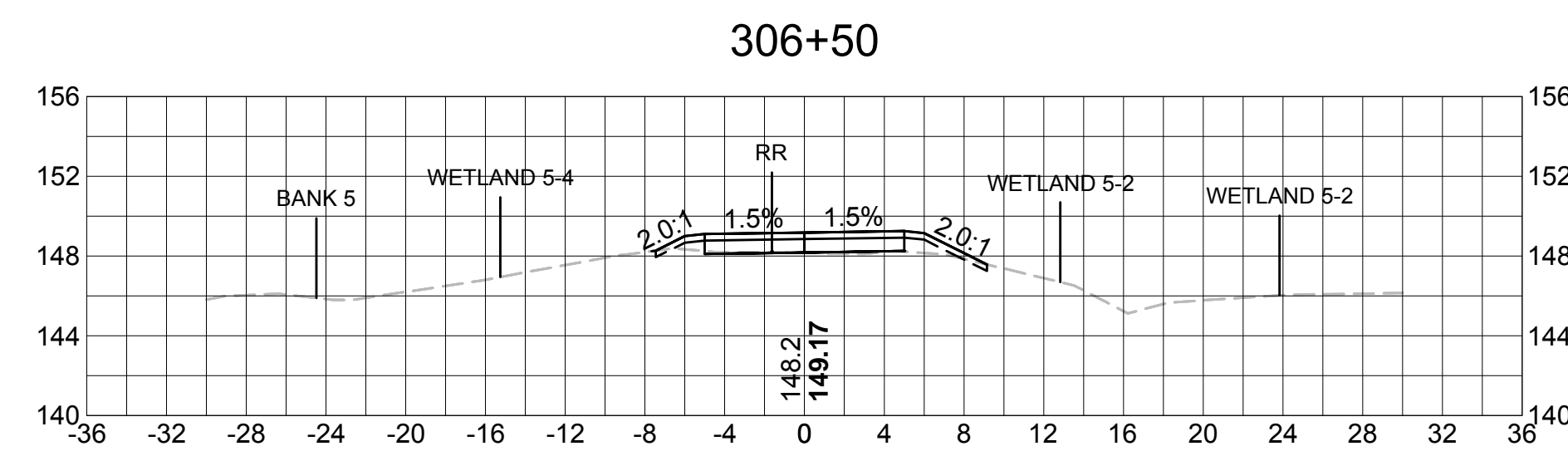
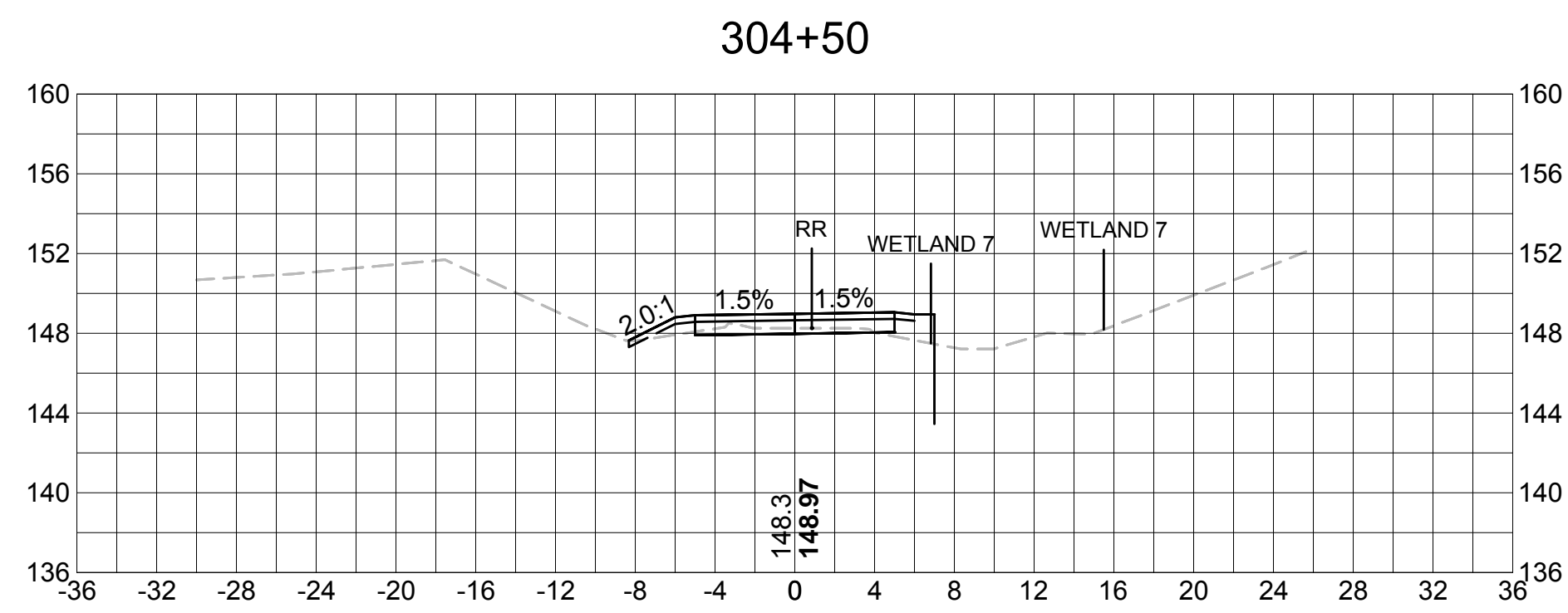
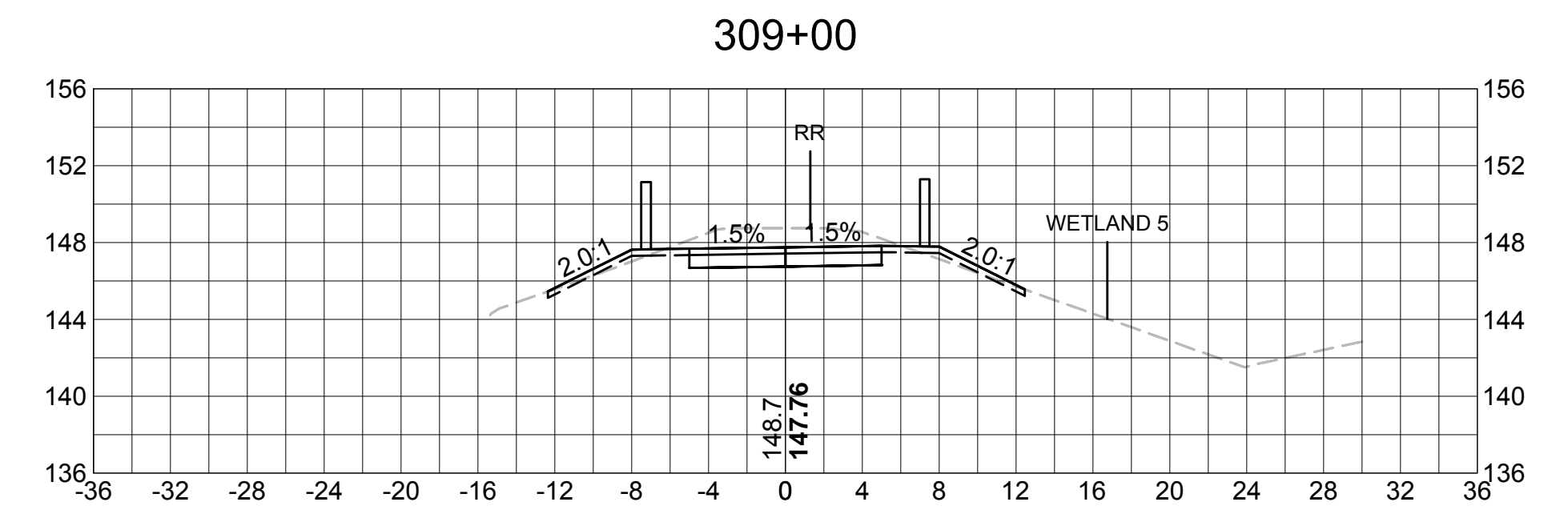
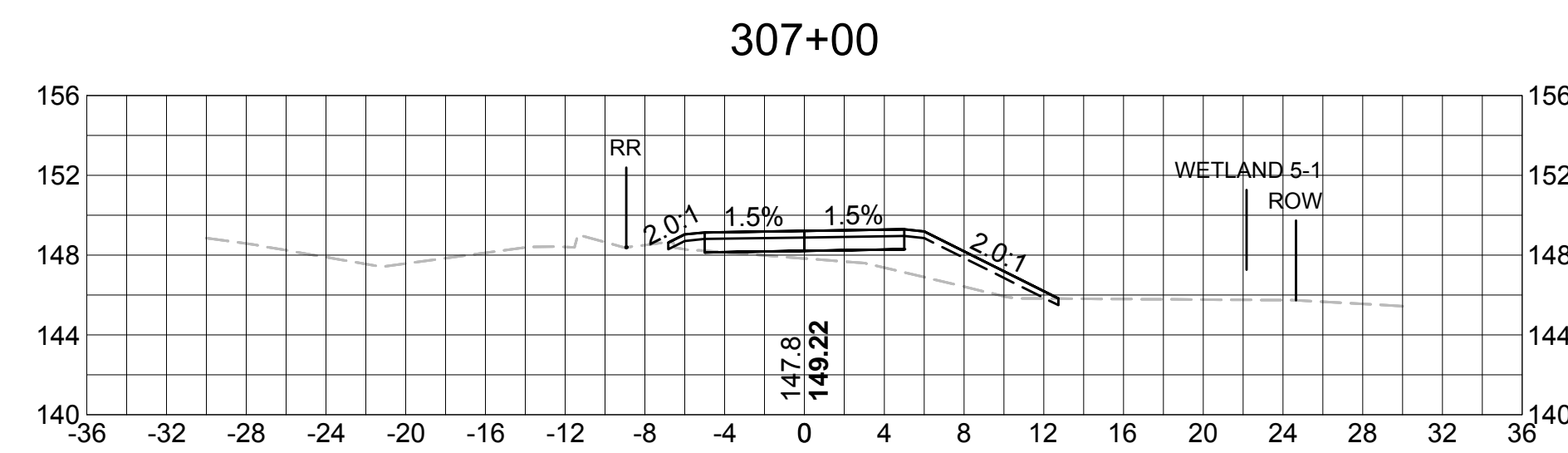
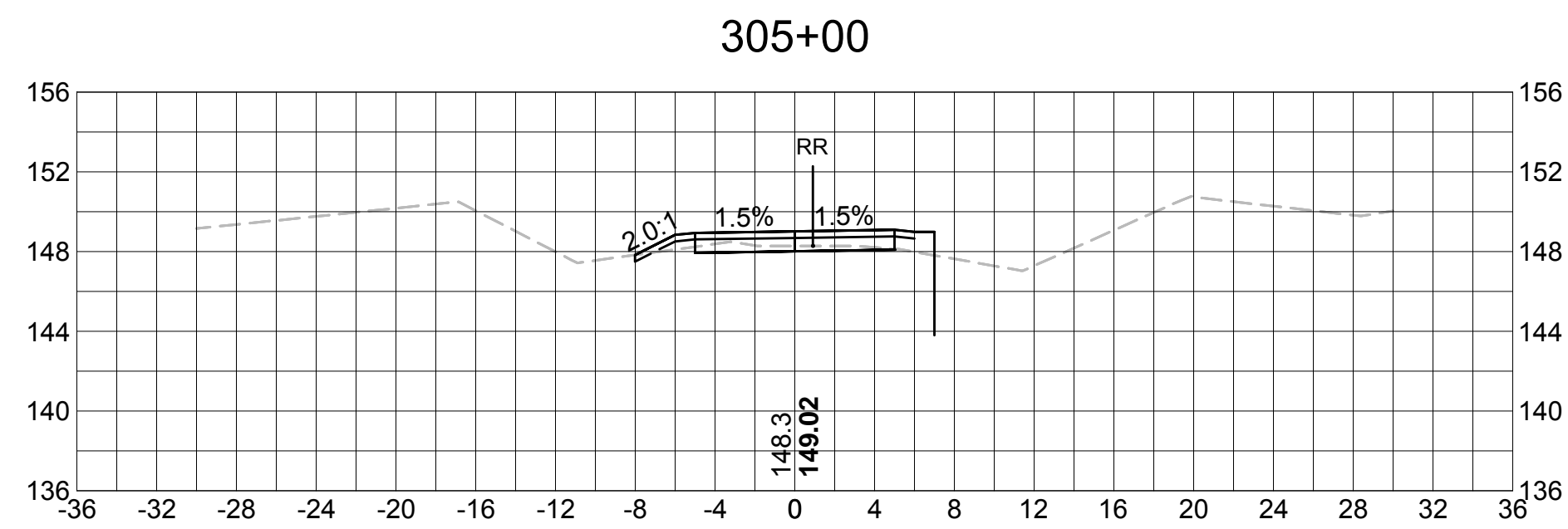
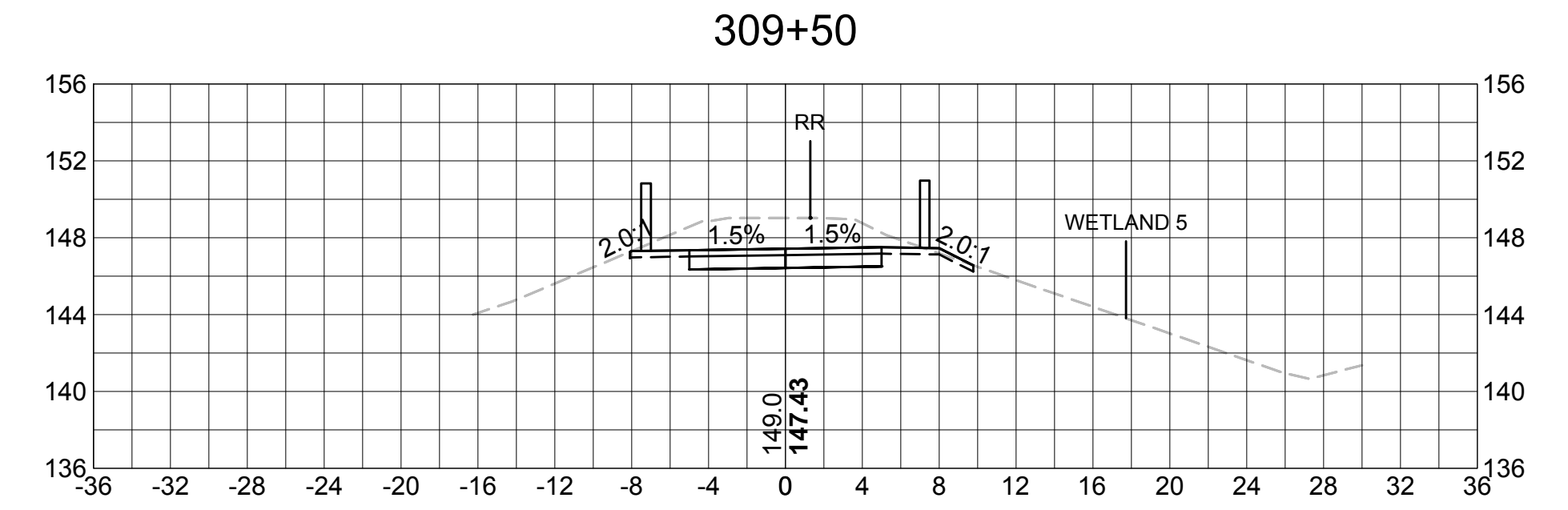
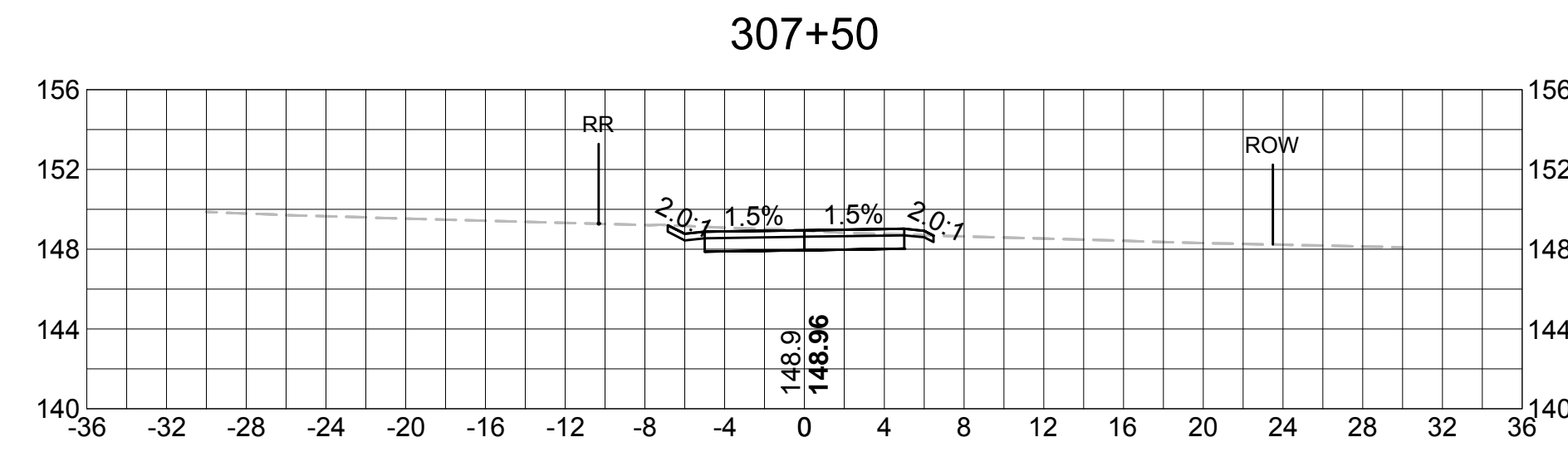
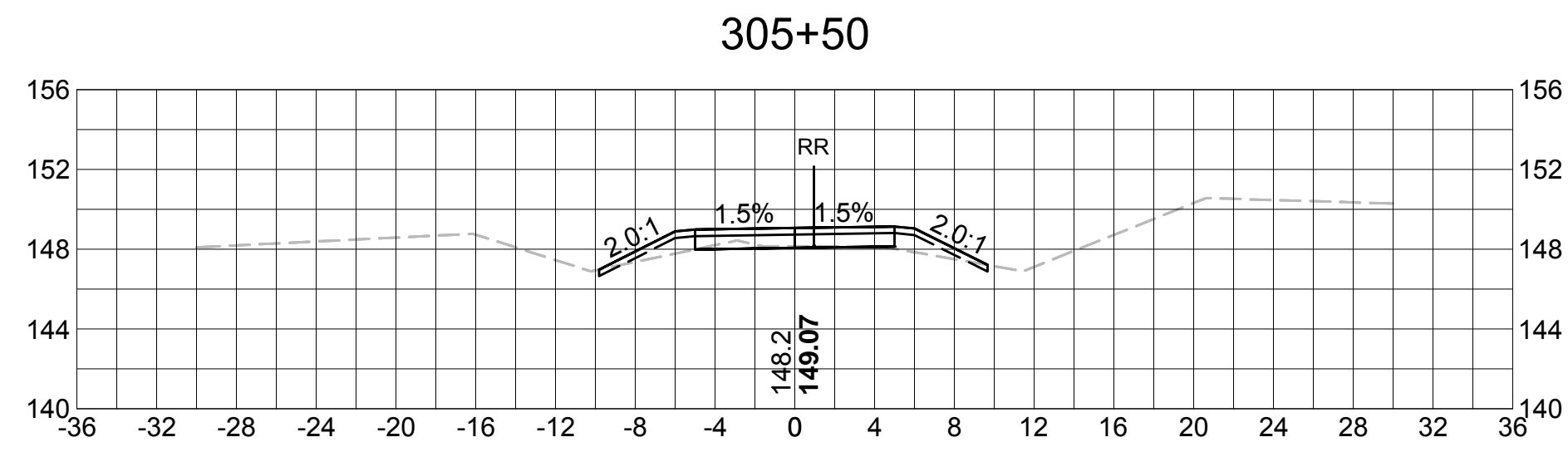
302+00



SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	117	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

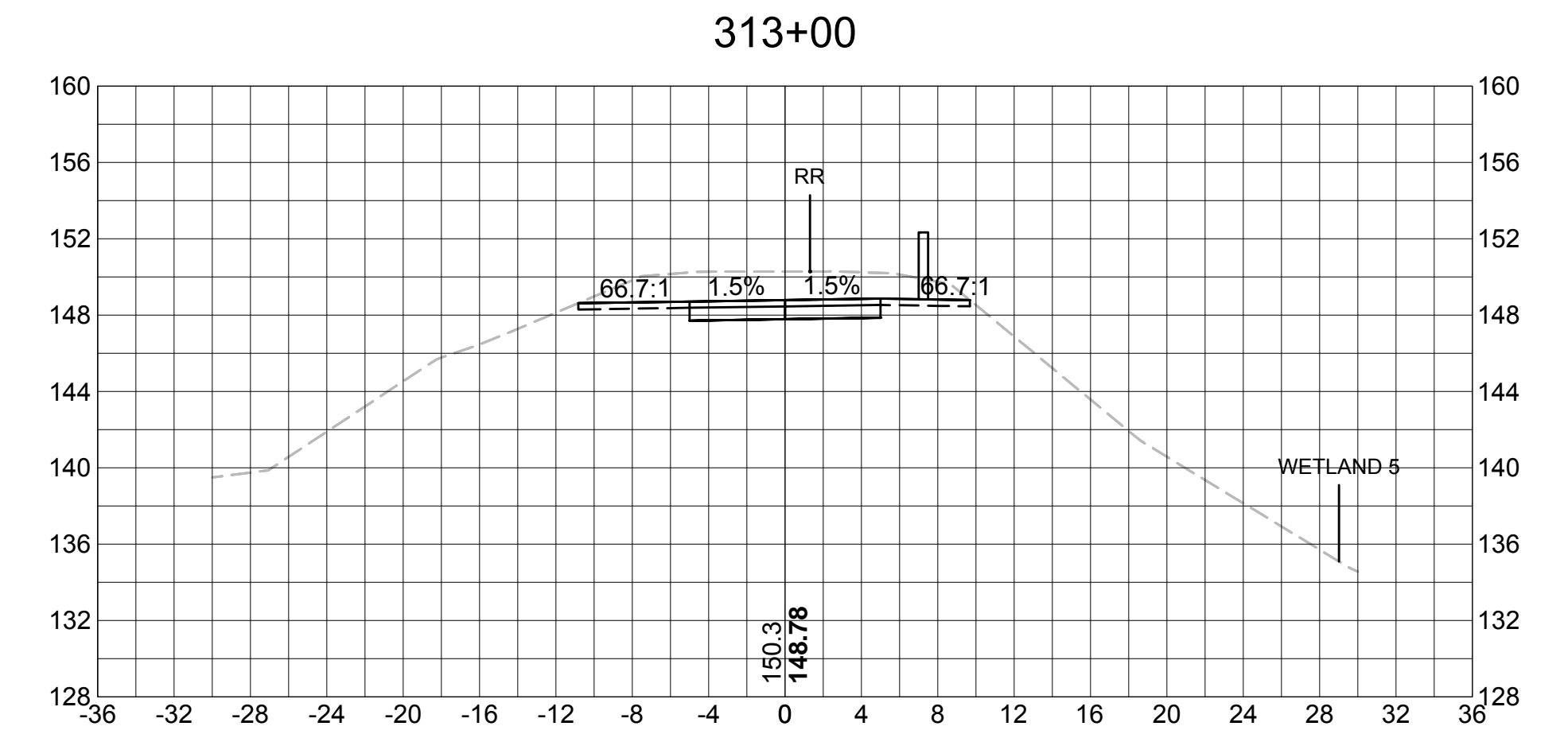
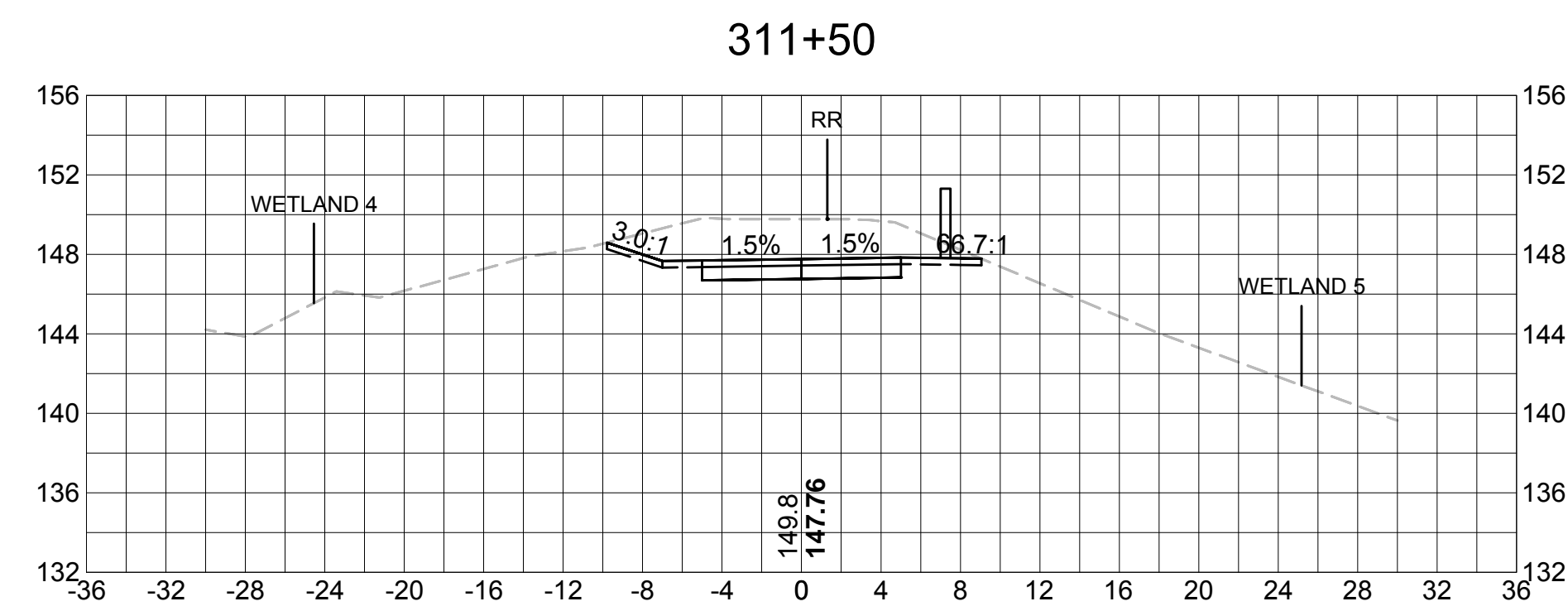
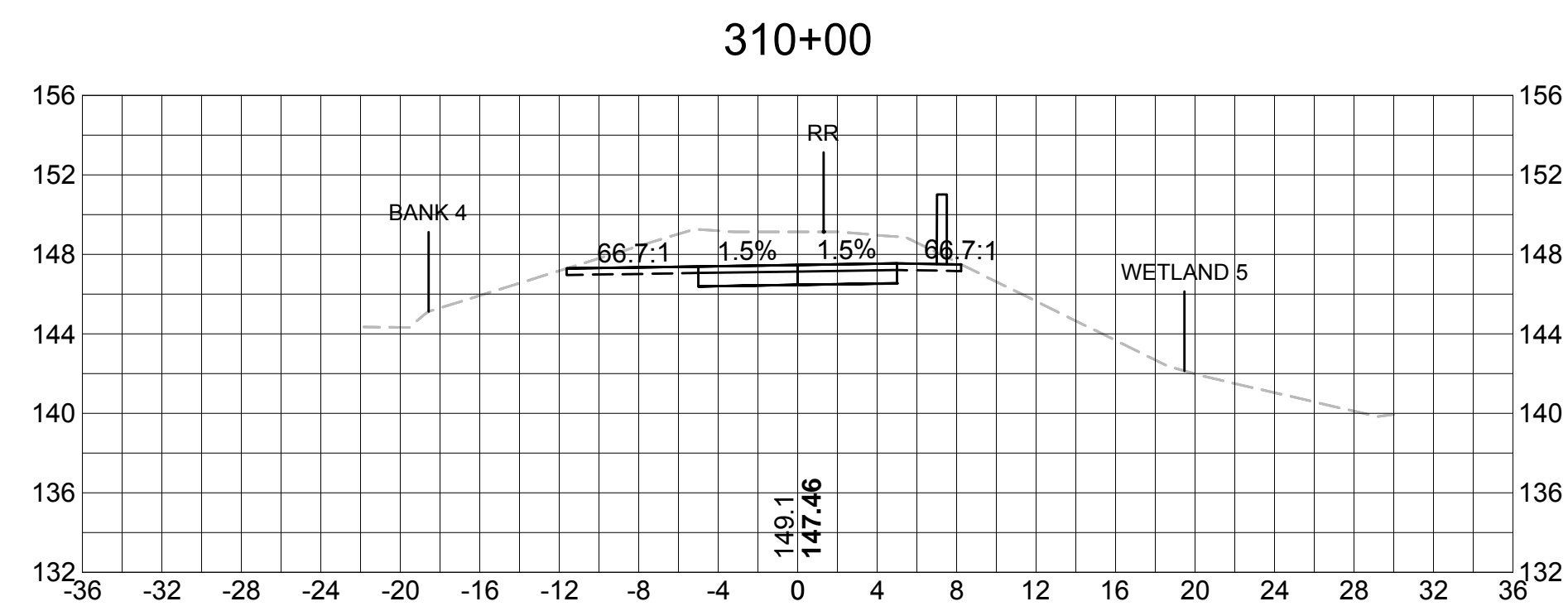
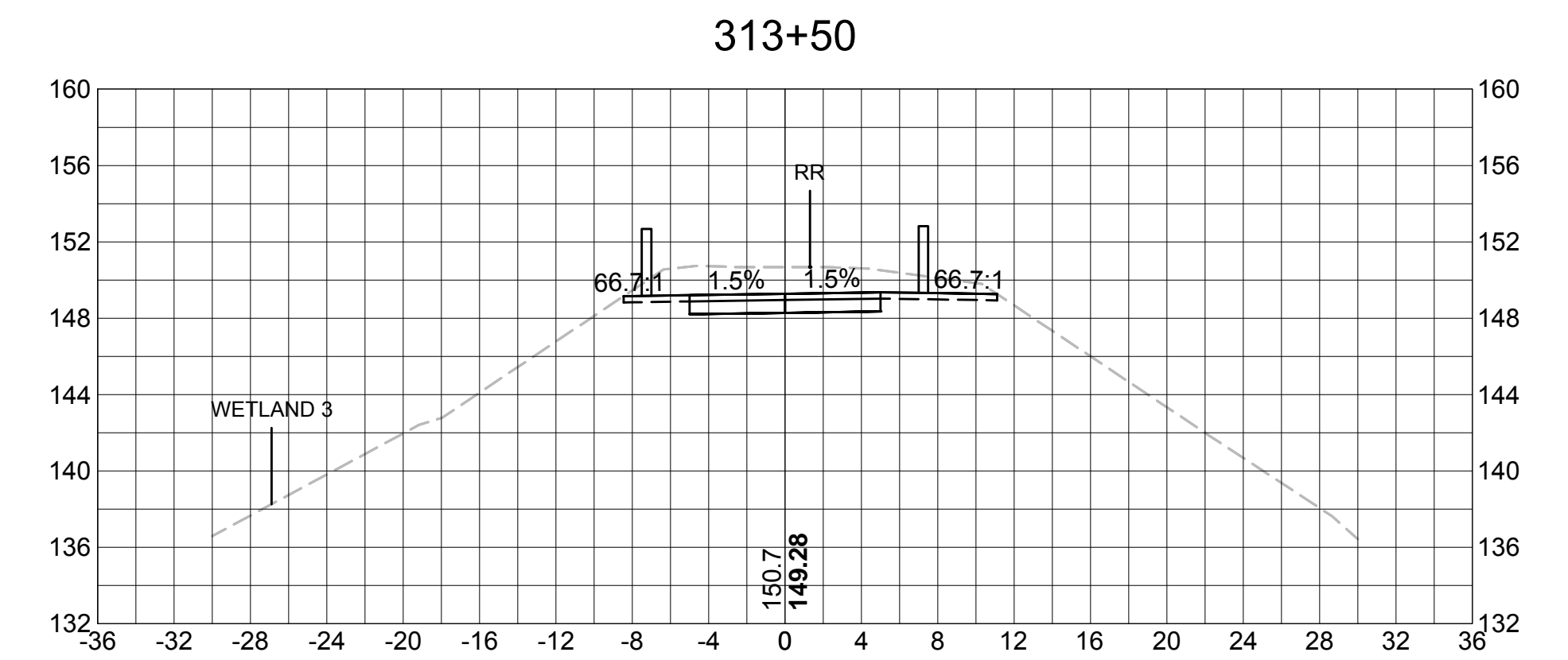
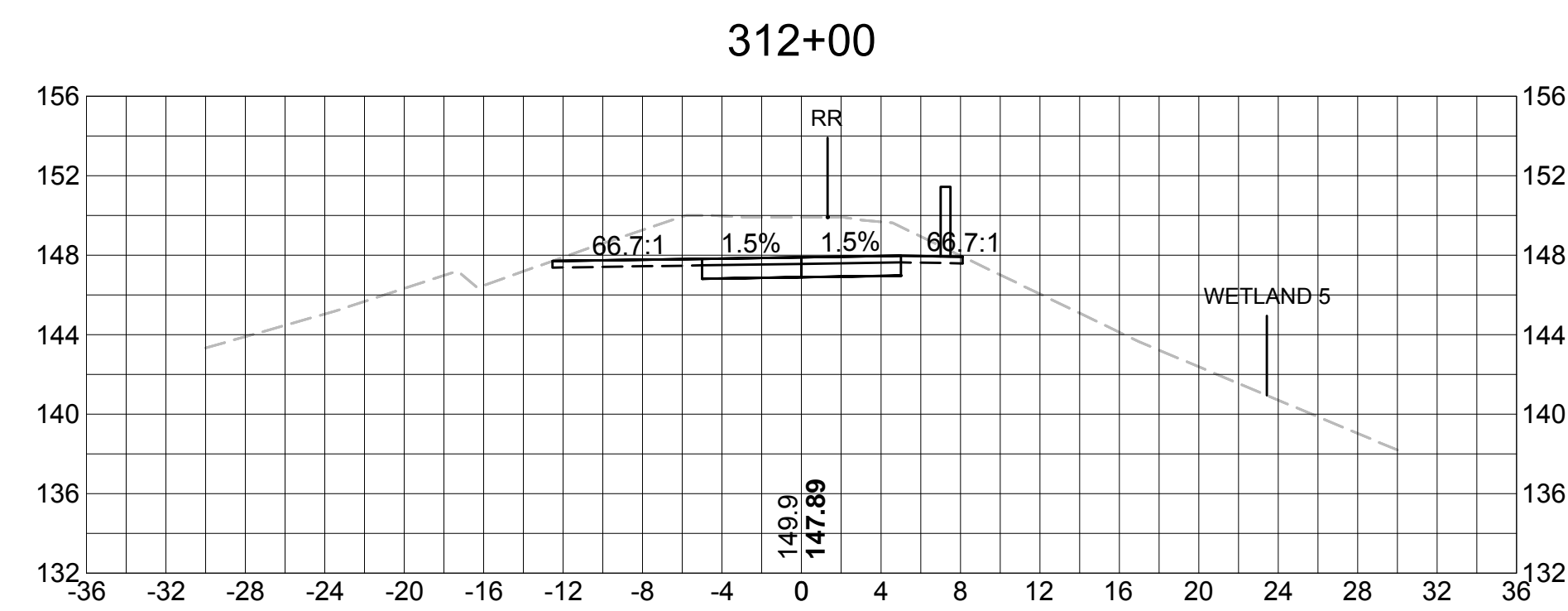
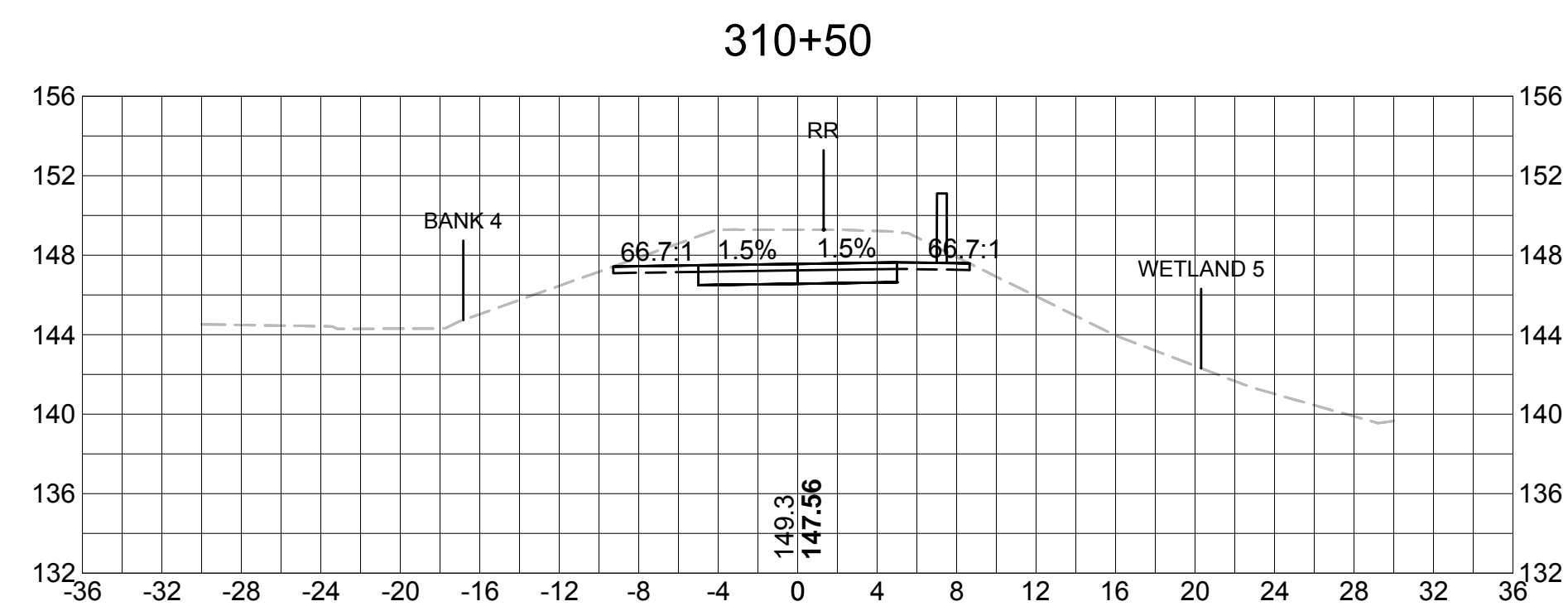
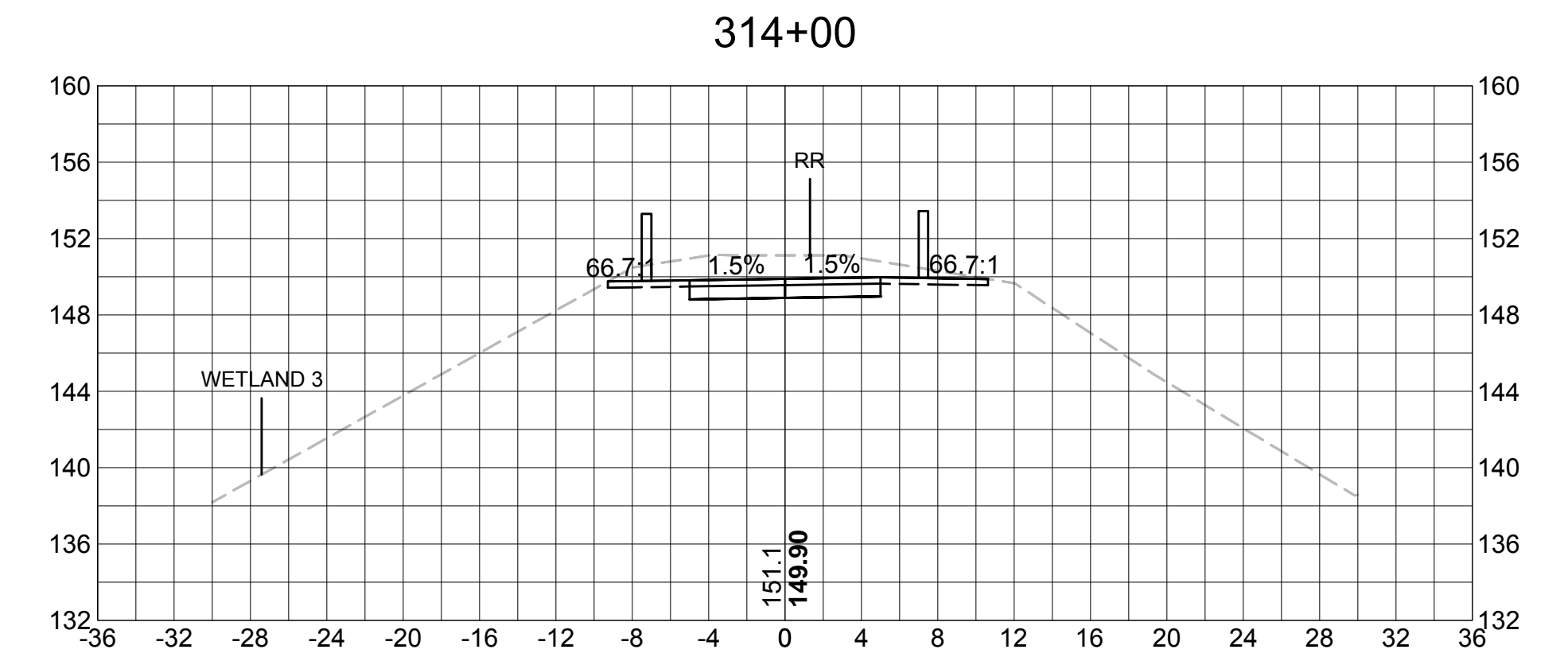
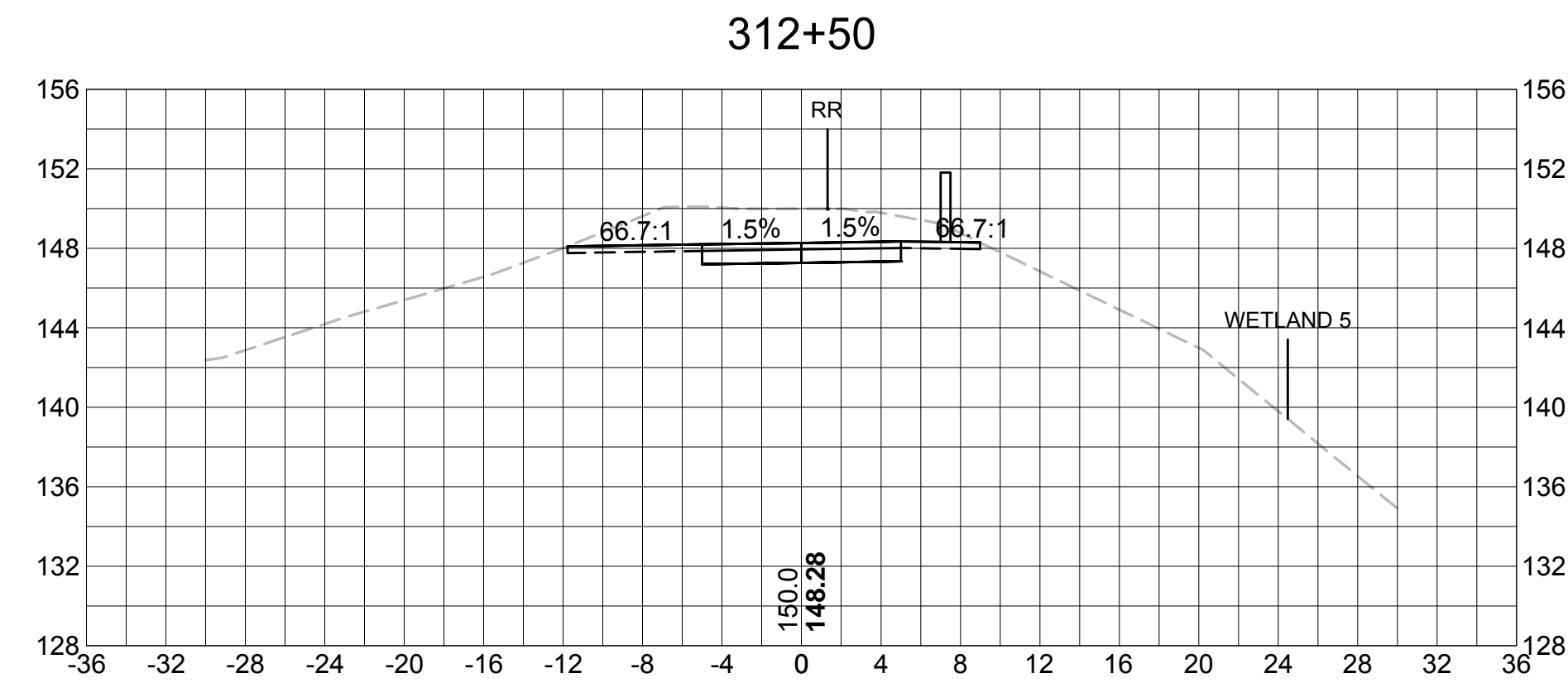
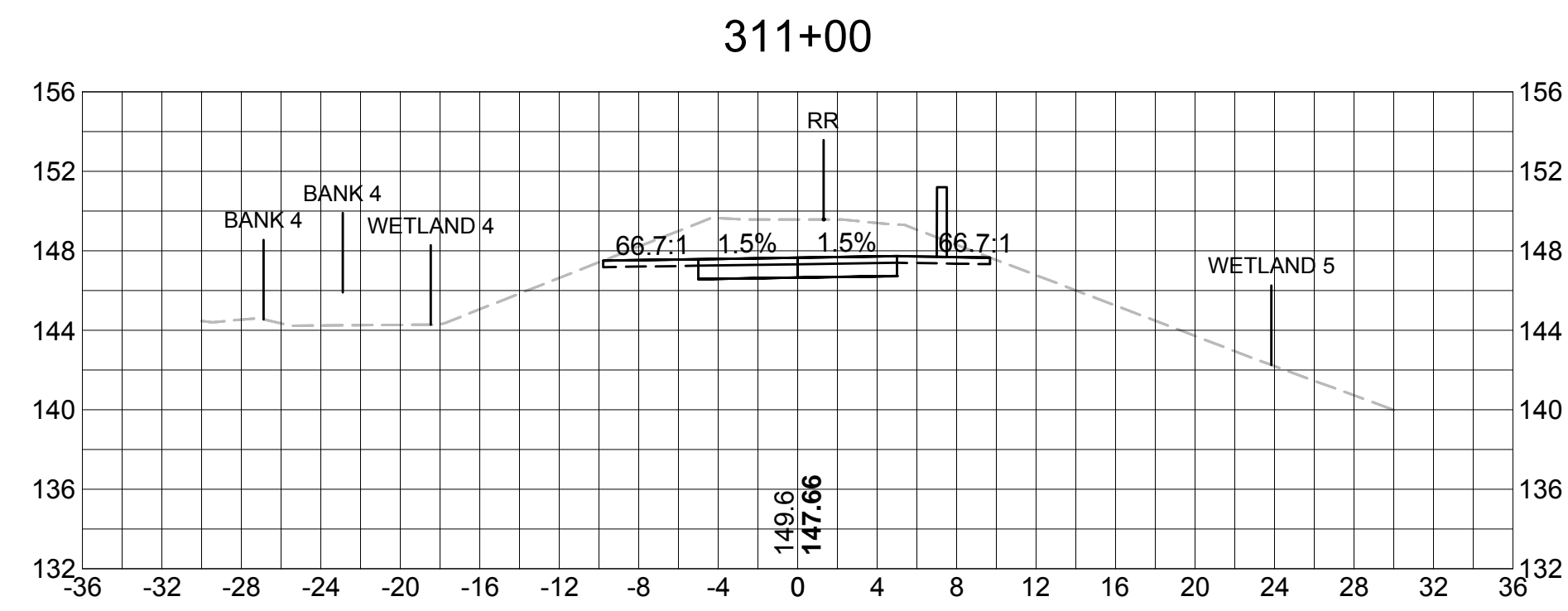


SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	118	123

PROJECT FILE NO. 608164

CROSS SECTIONS



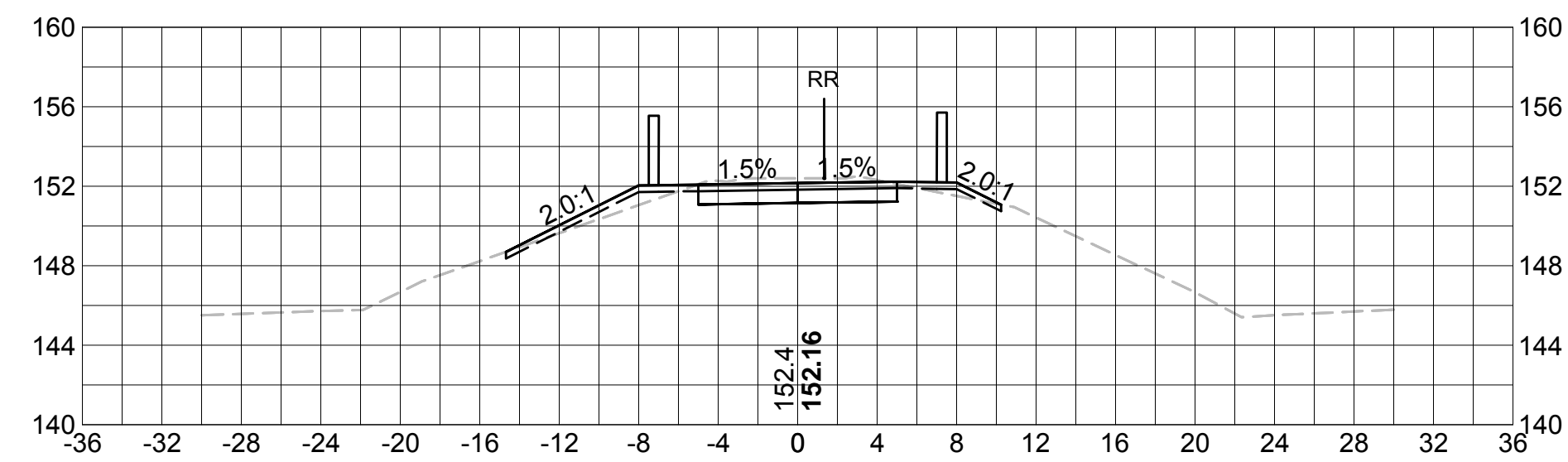
SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	119	123

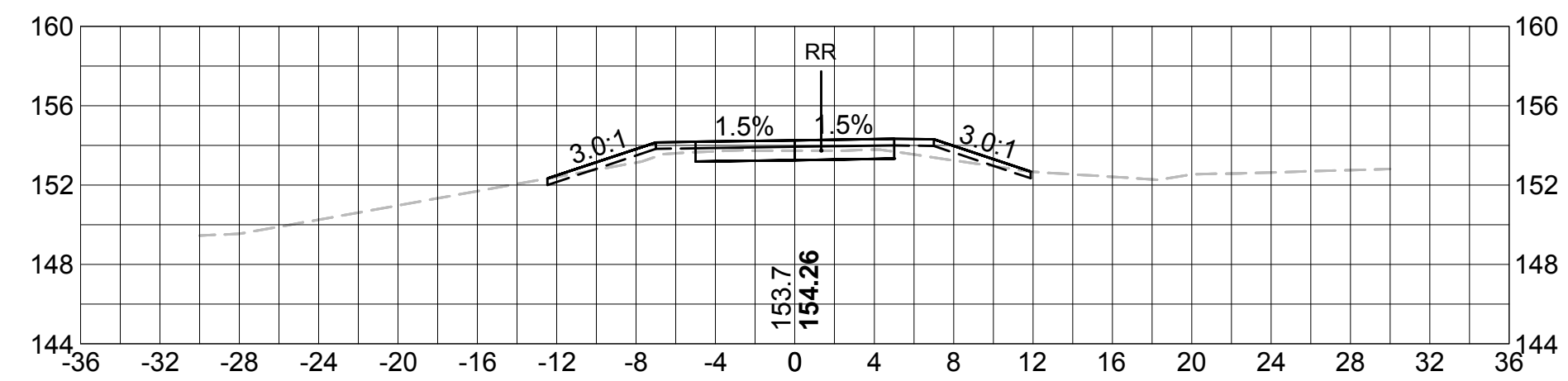
PROJECT FILE NO. 608164

CROSS SECTIONS

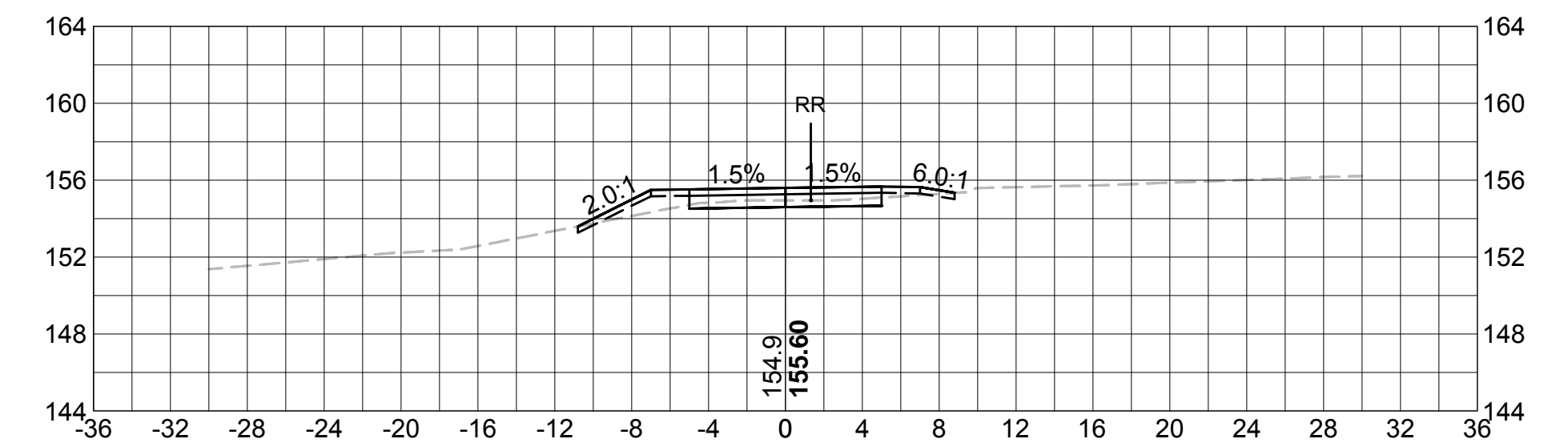
315+50



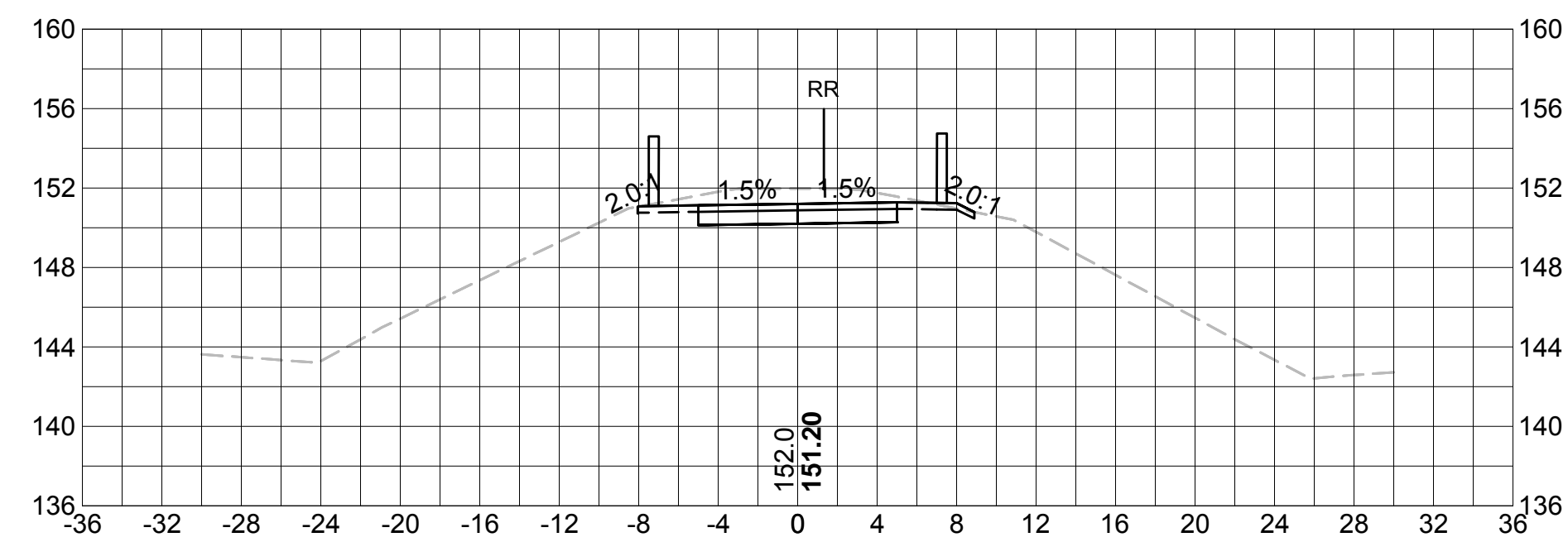
317+00



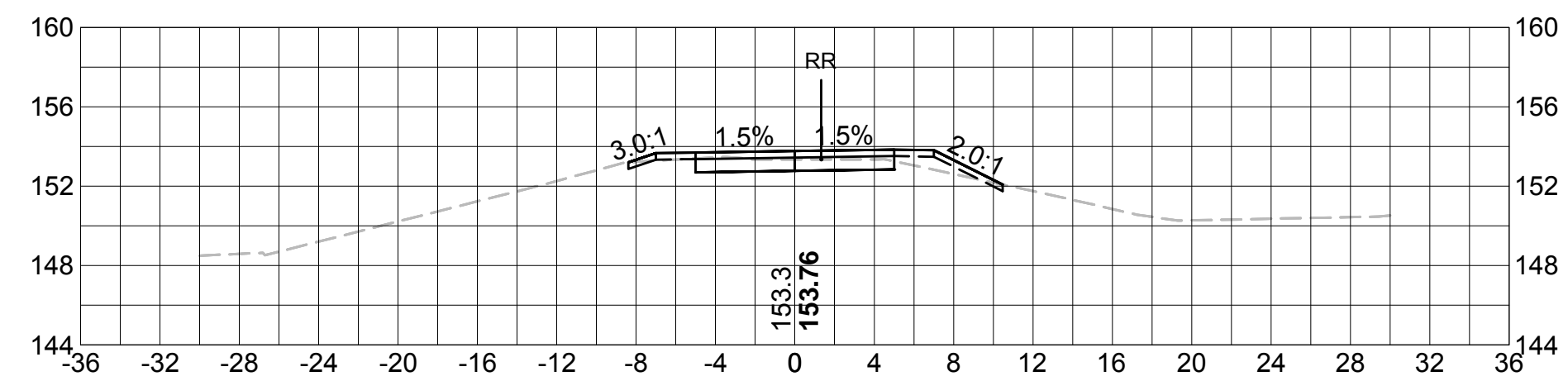
318+50



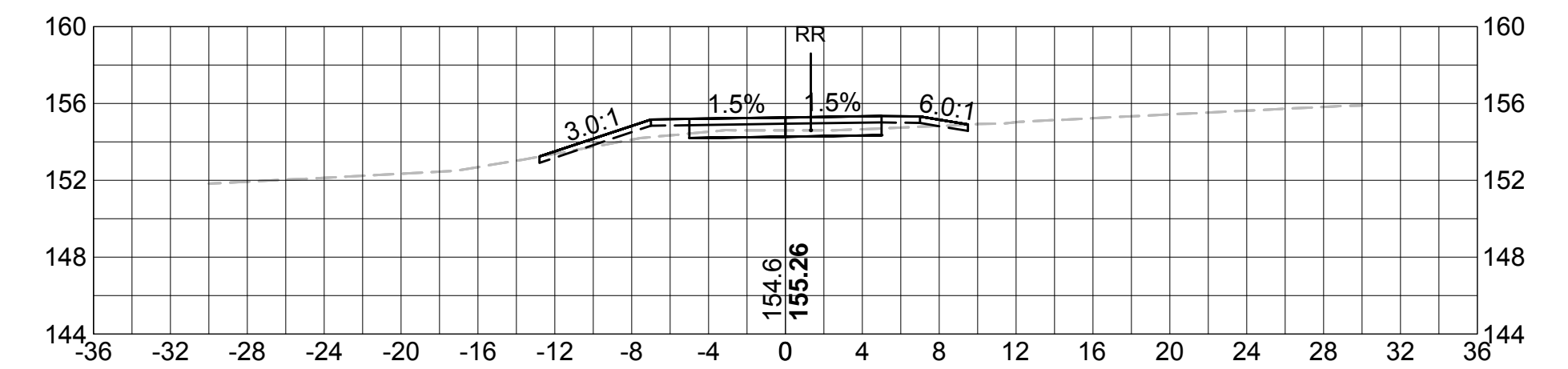
315+00



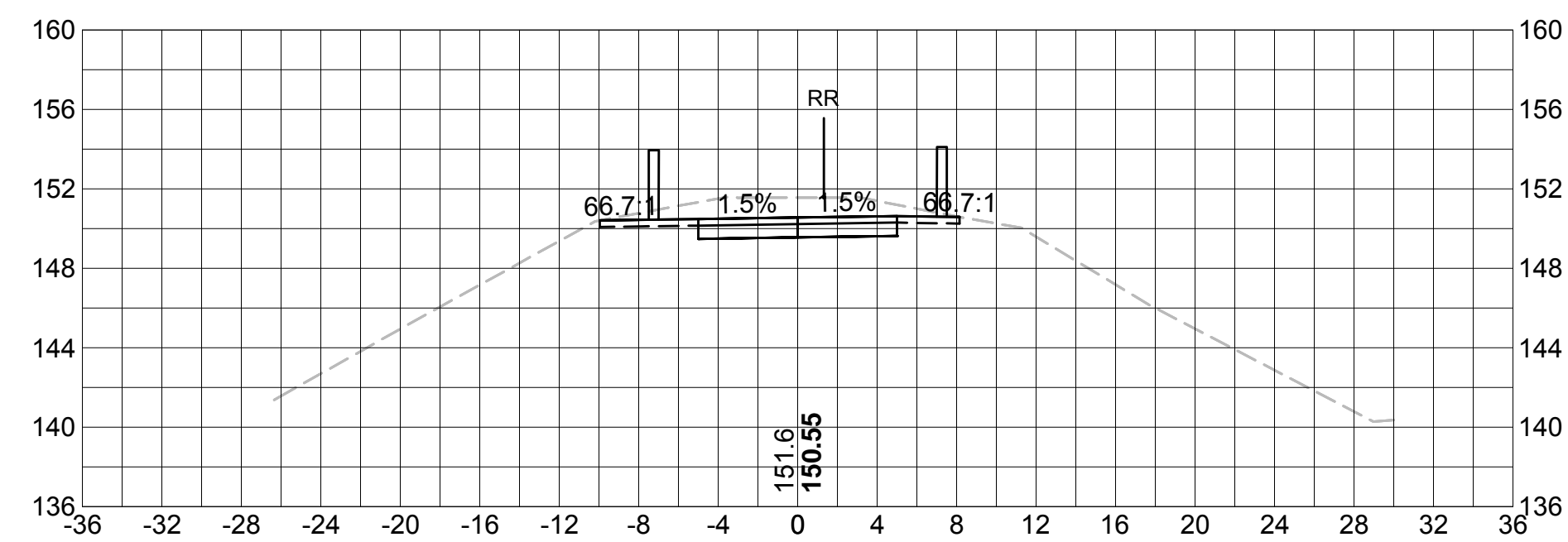
316+50



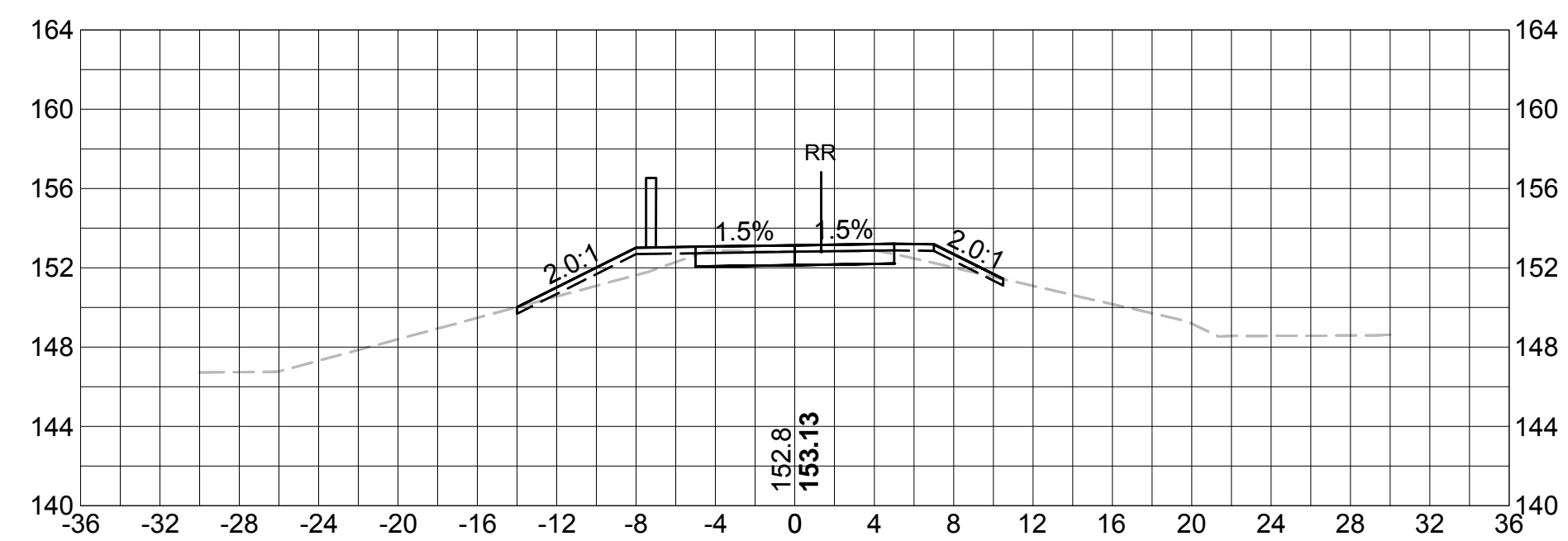
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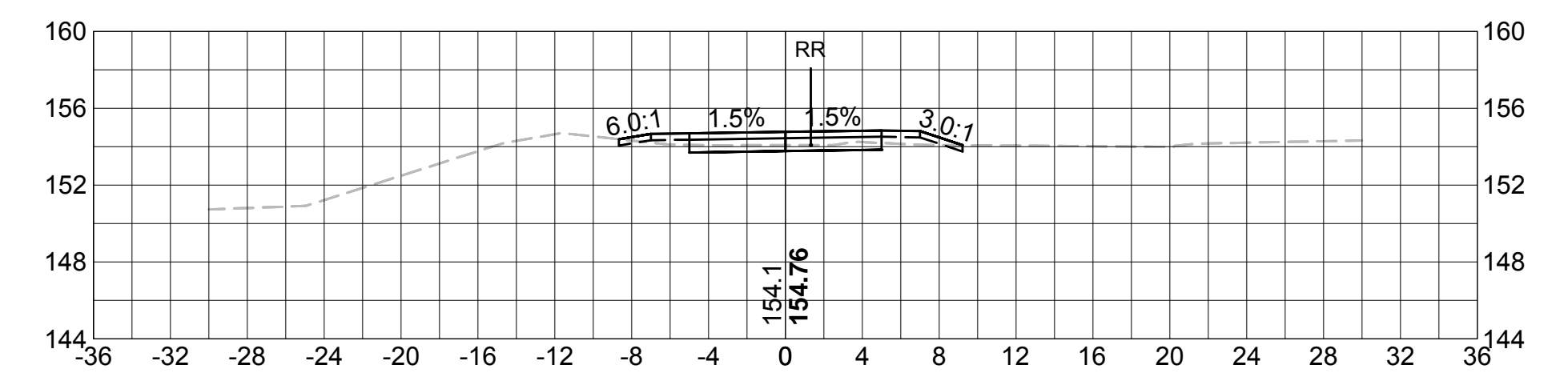
314+50



316+00



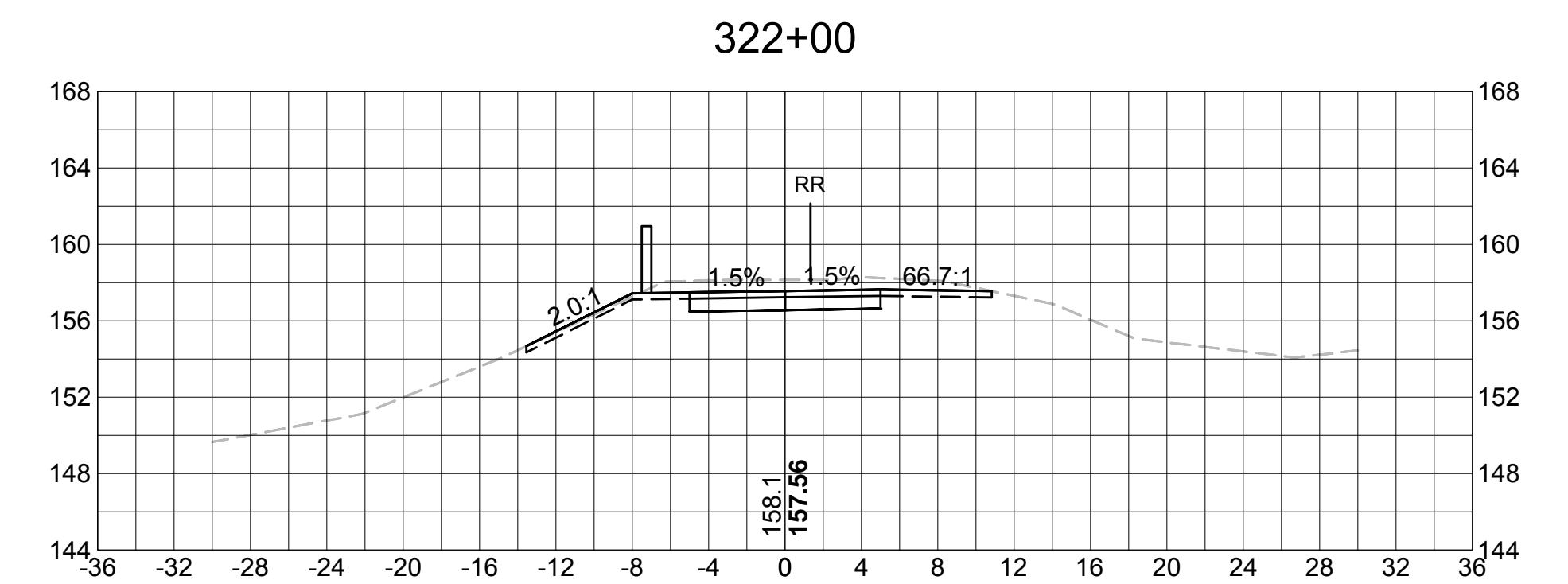
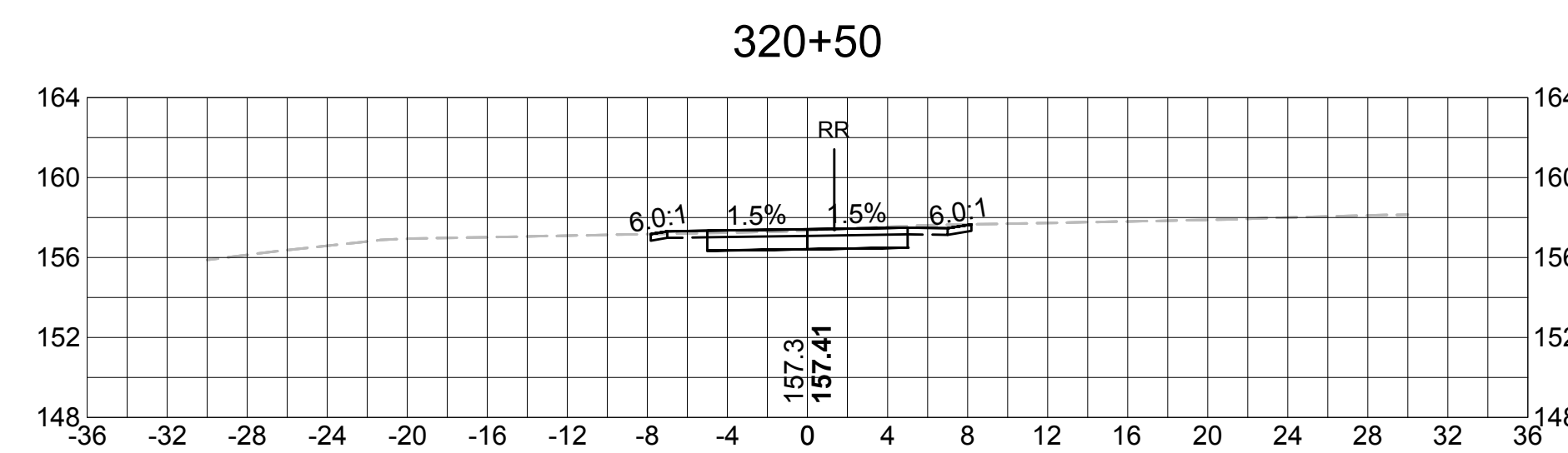
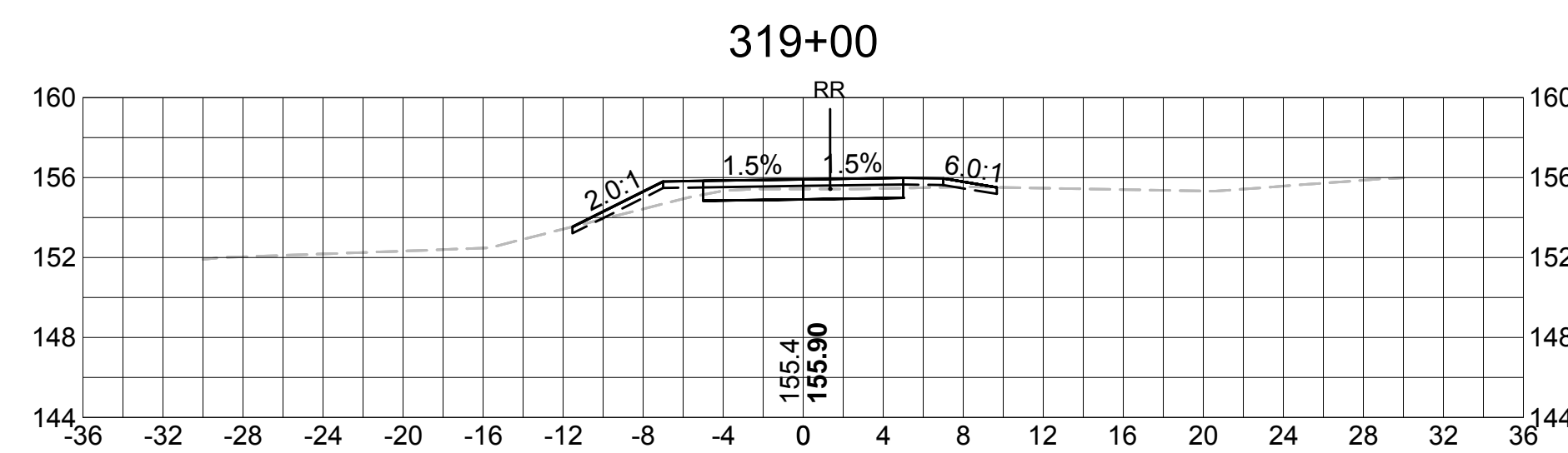
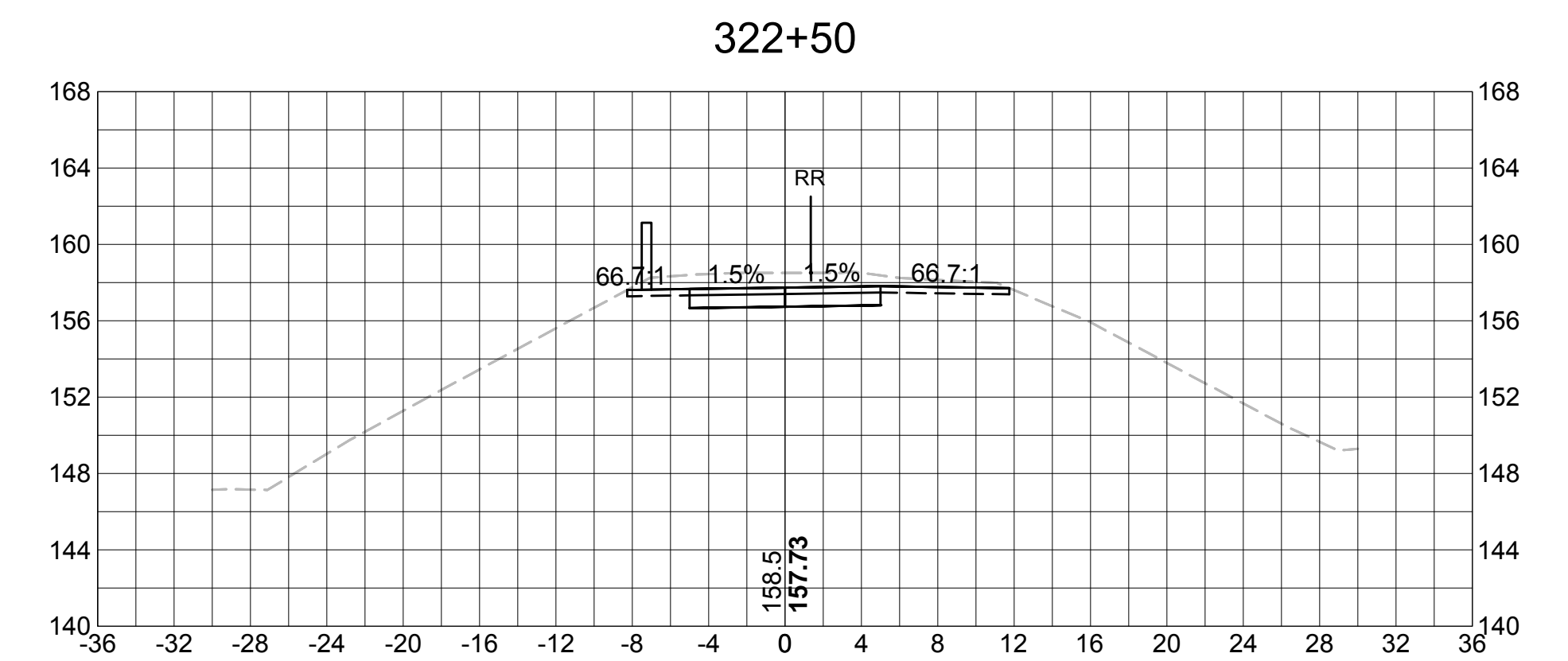
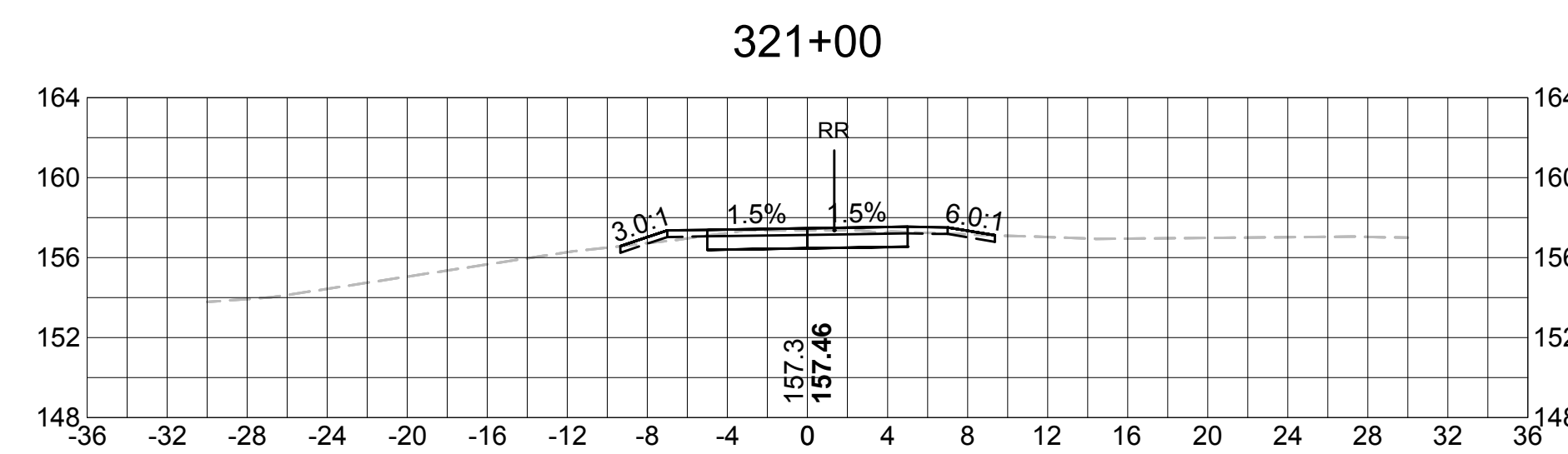
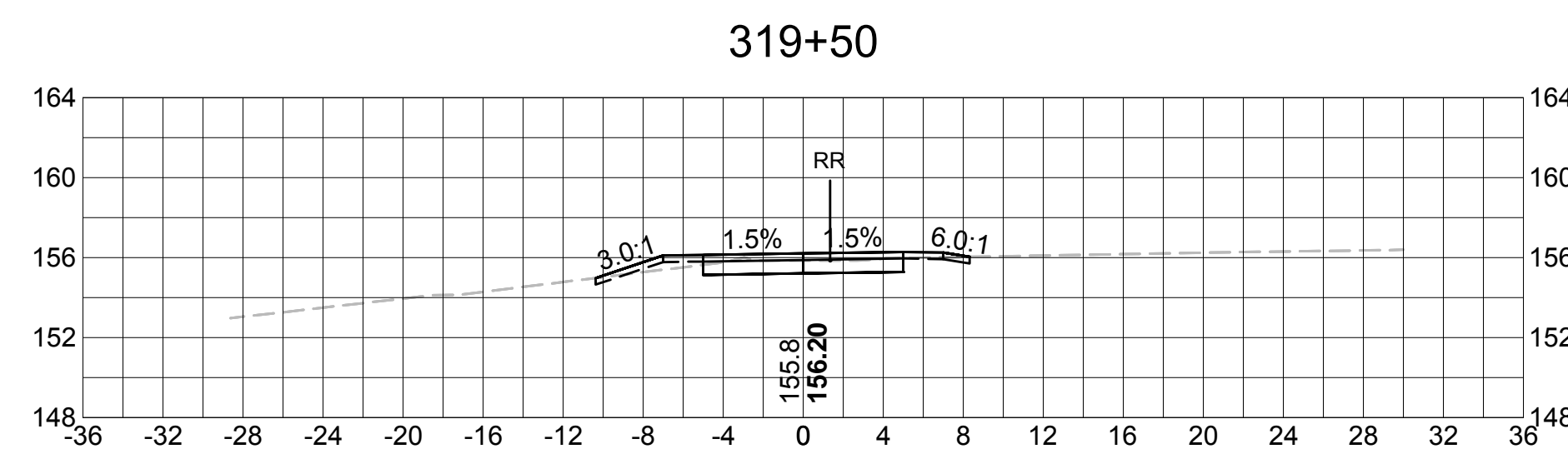
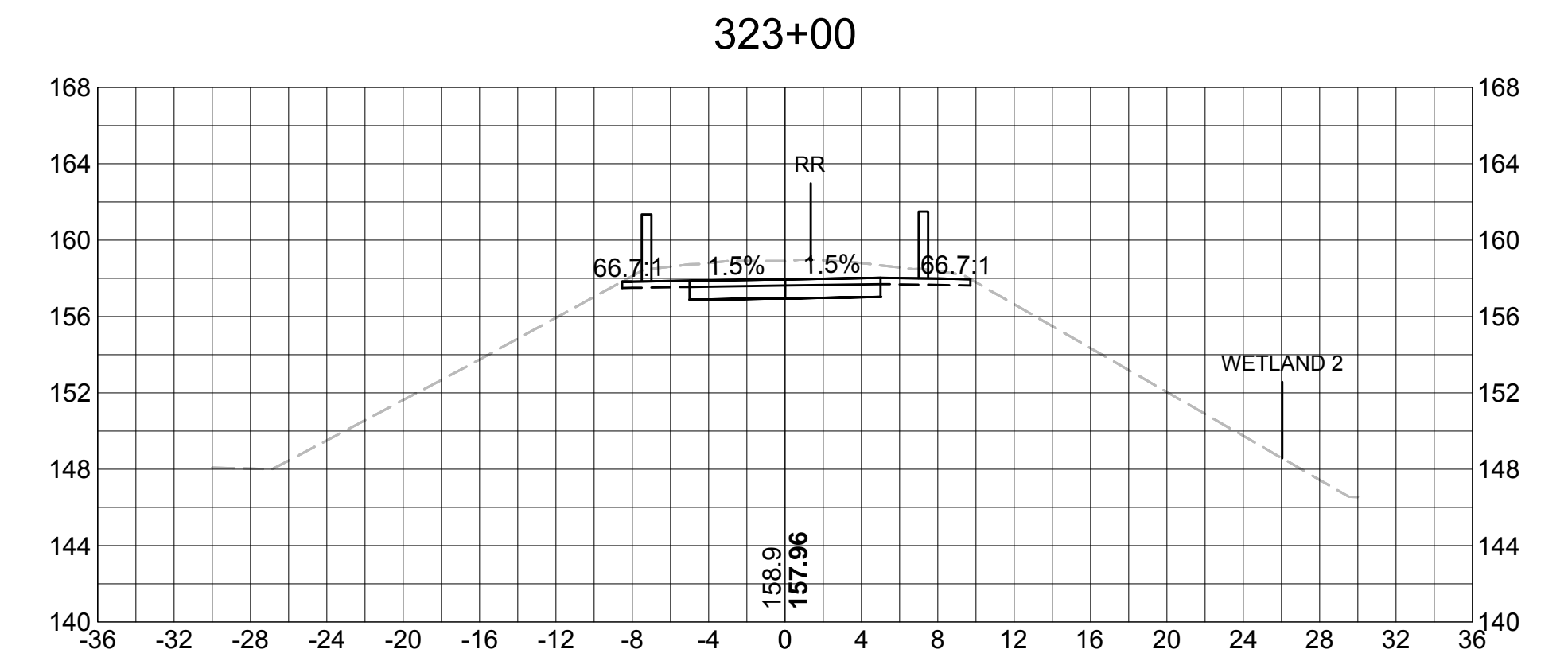
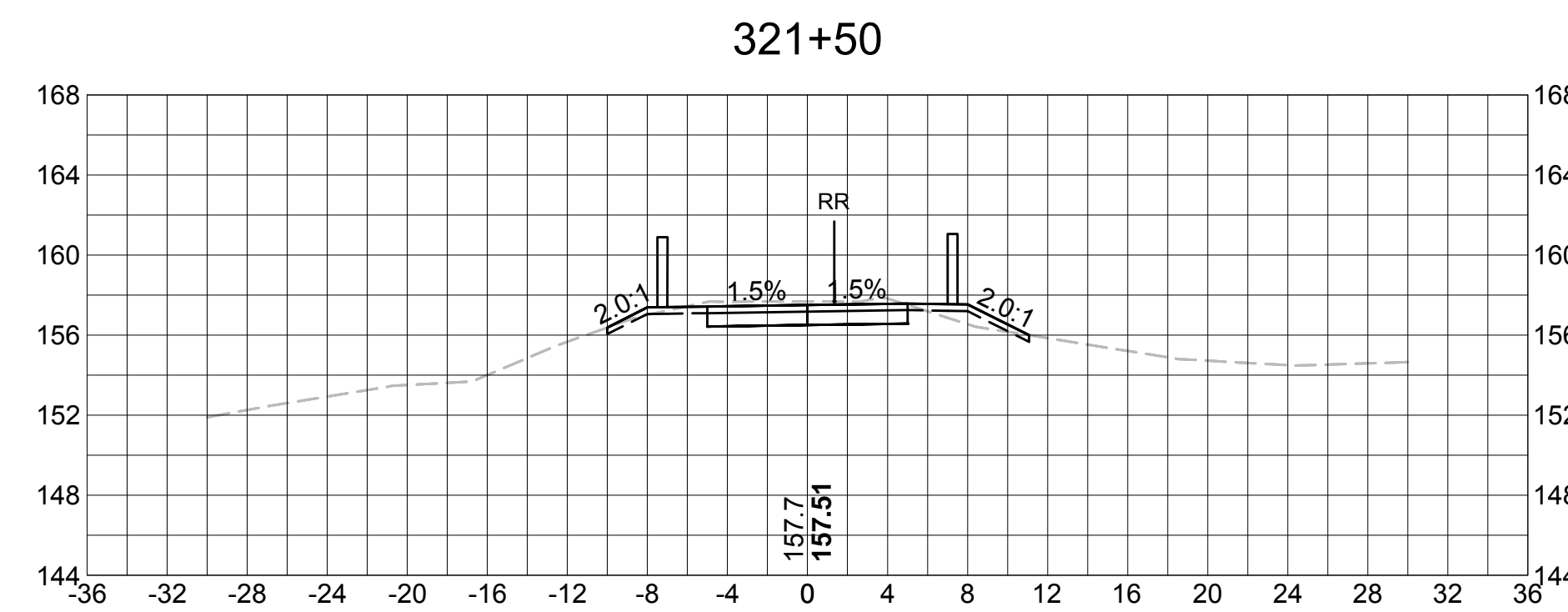
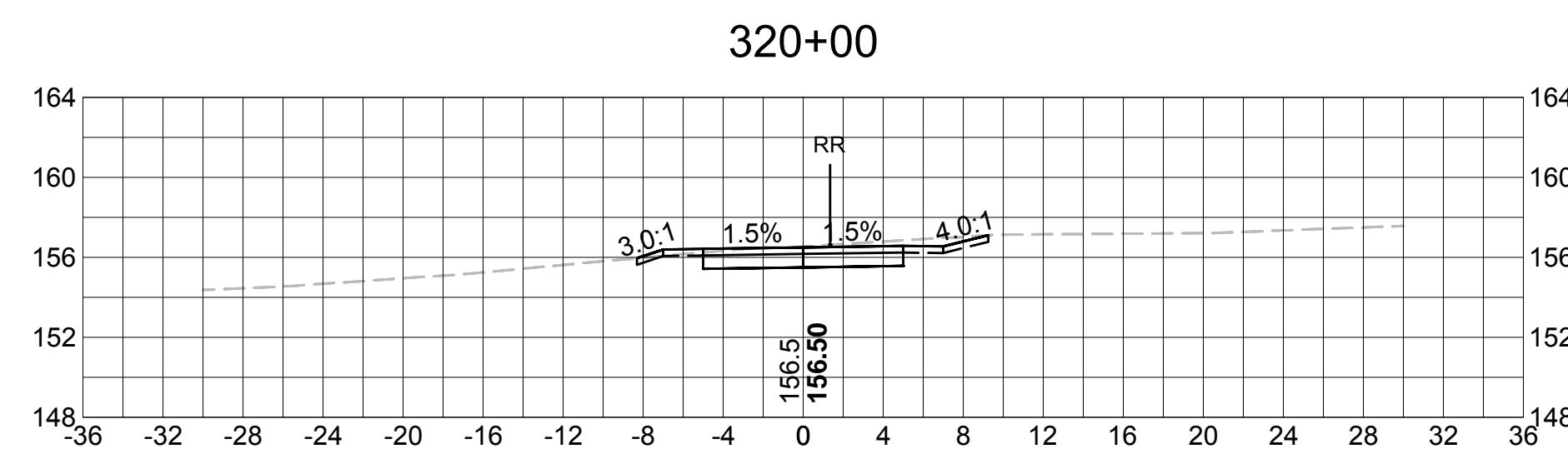
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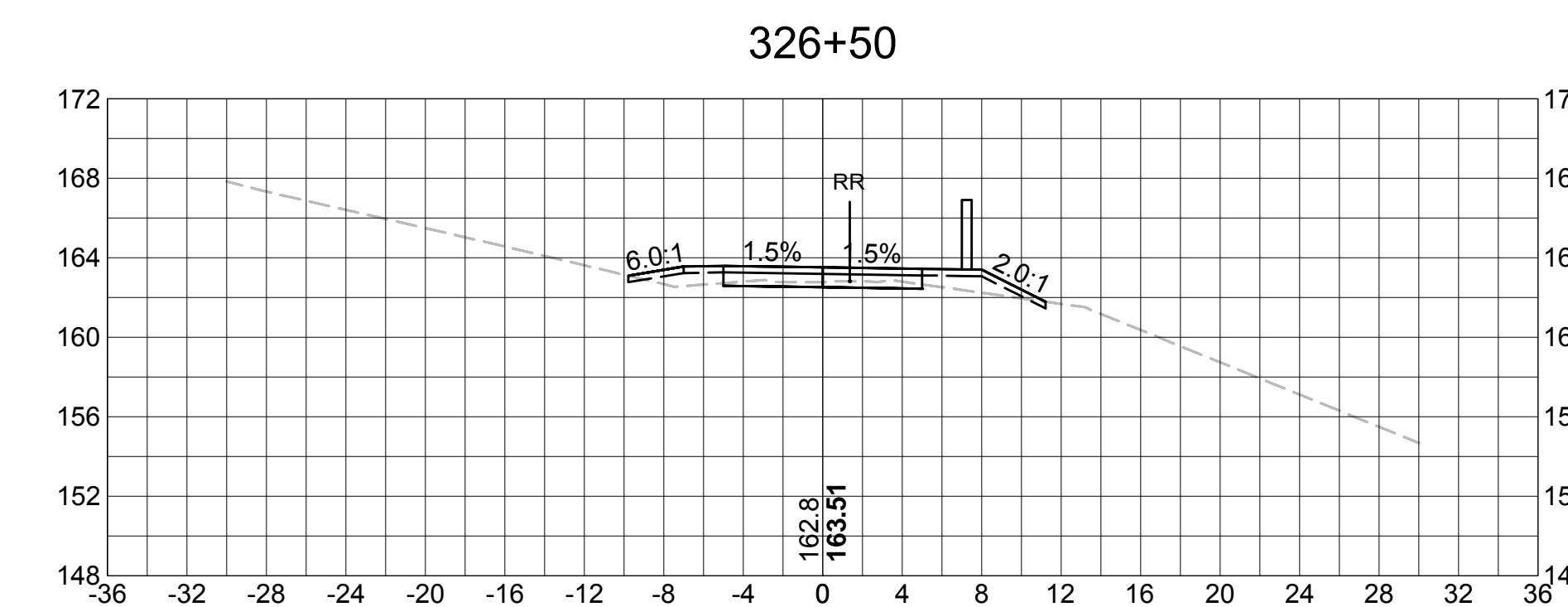
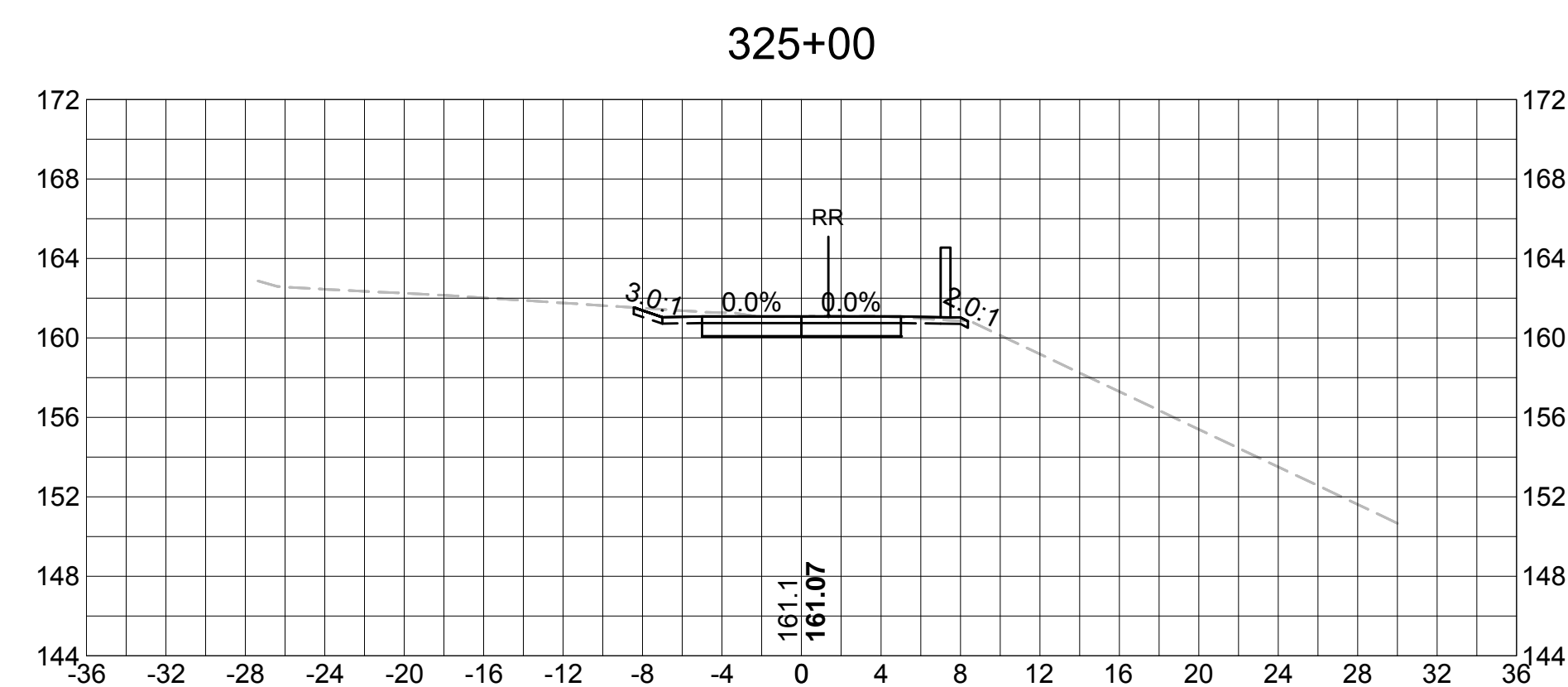
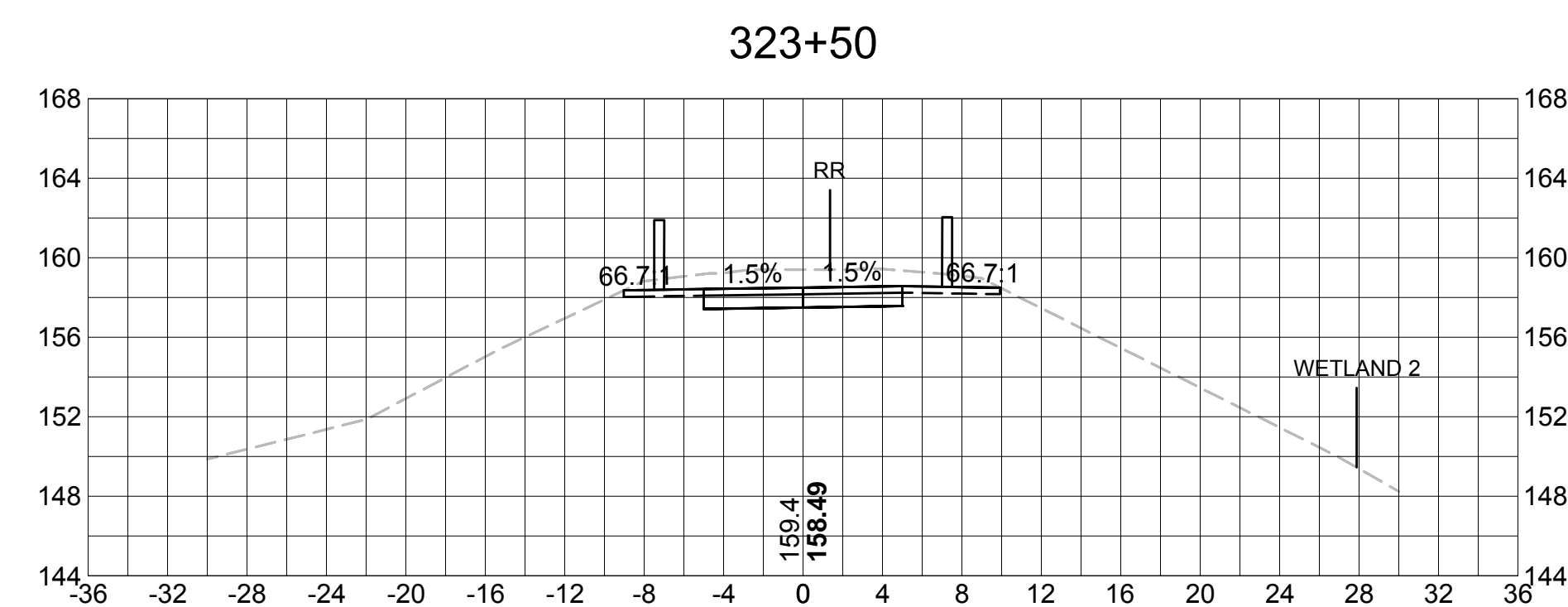
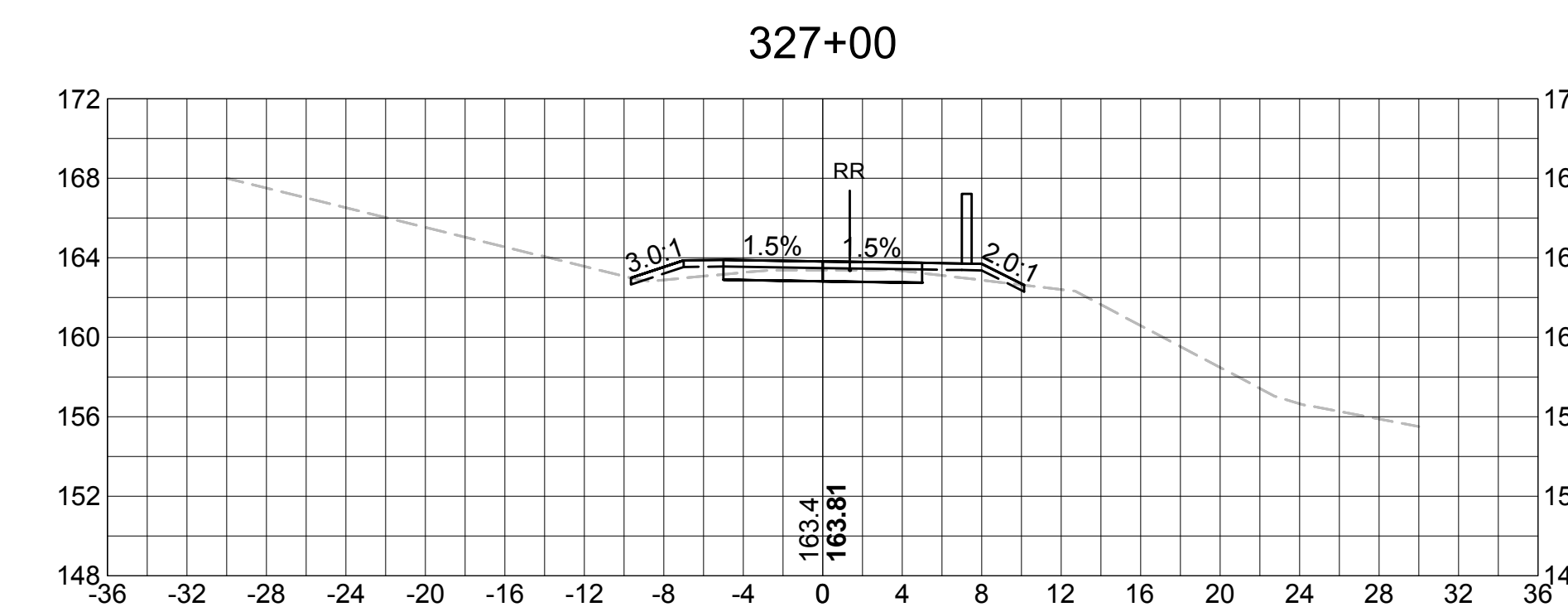
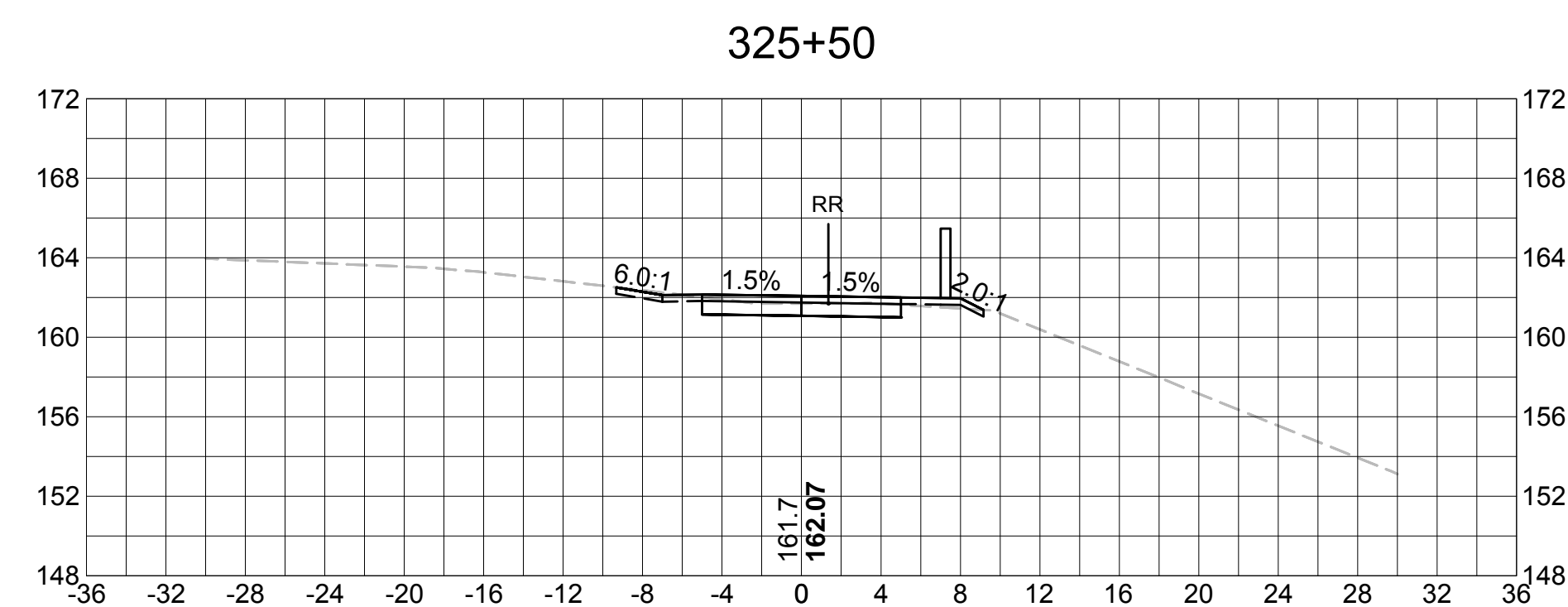
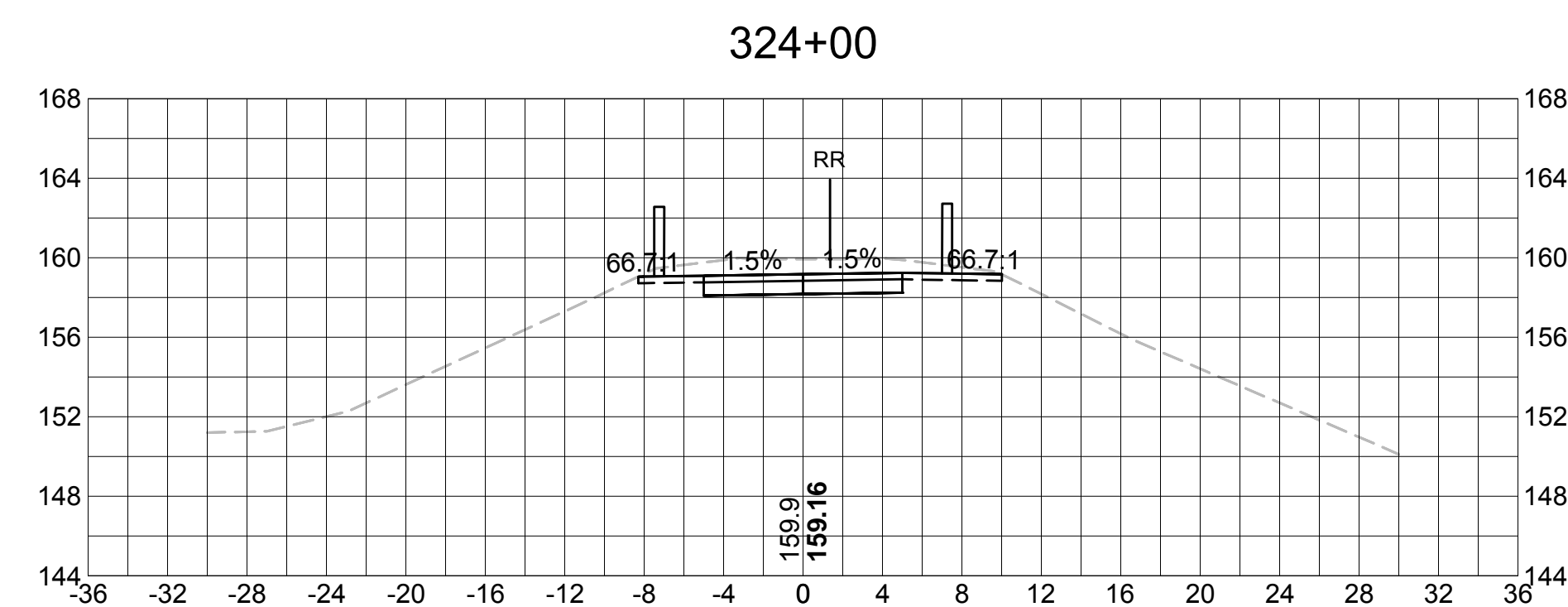
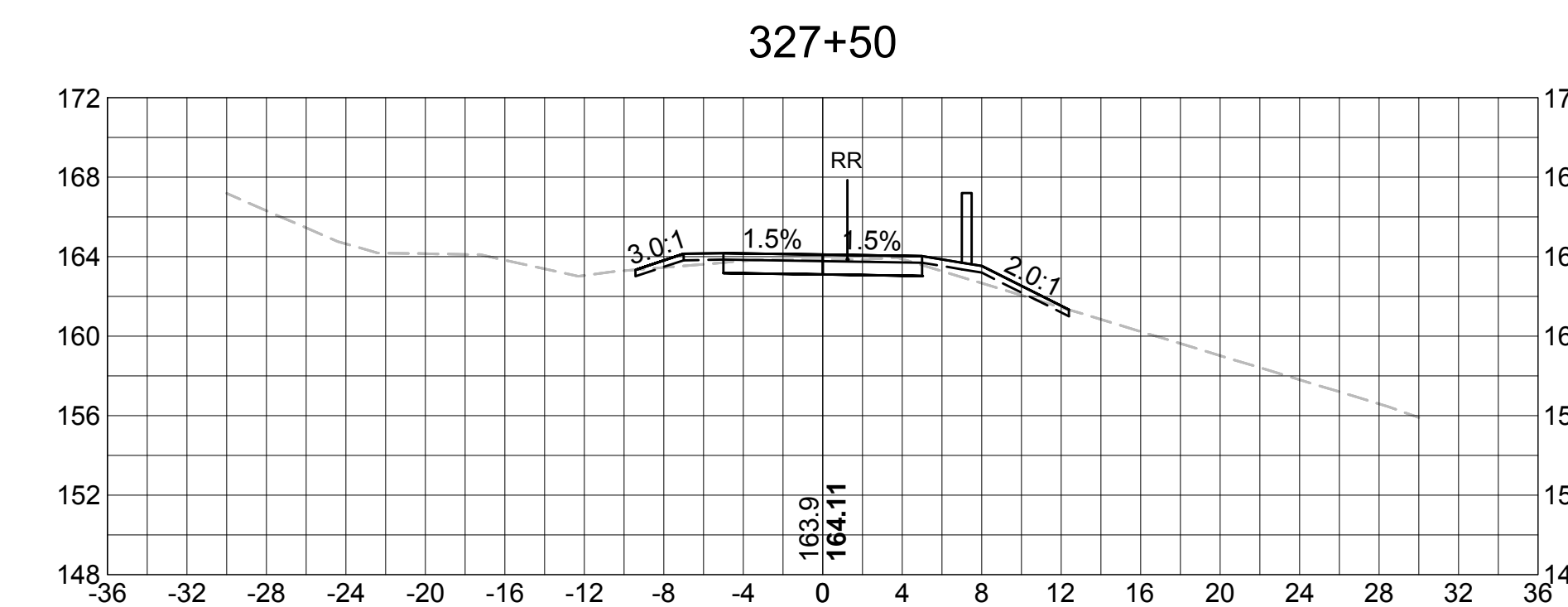
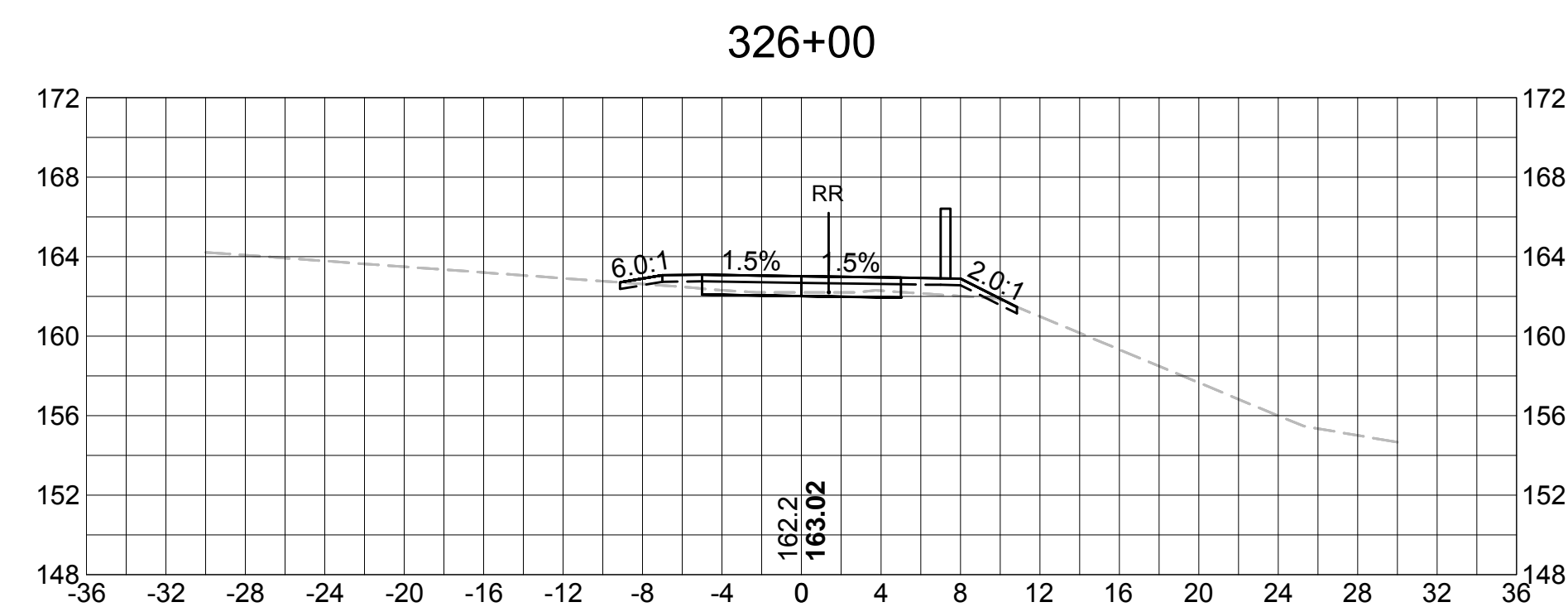
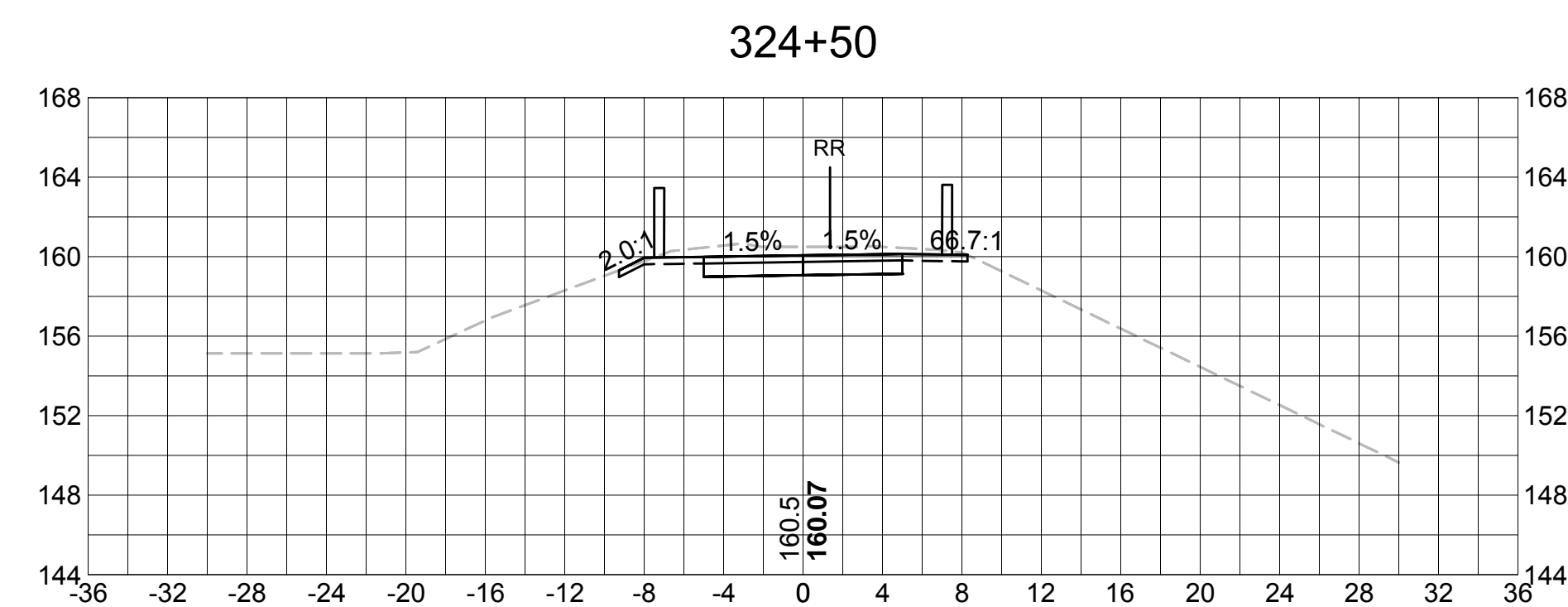


SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	120	123
PROJECT FILE NO. 608164			

CROSS SECTIONS



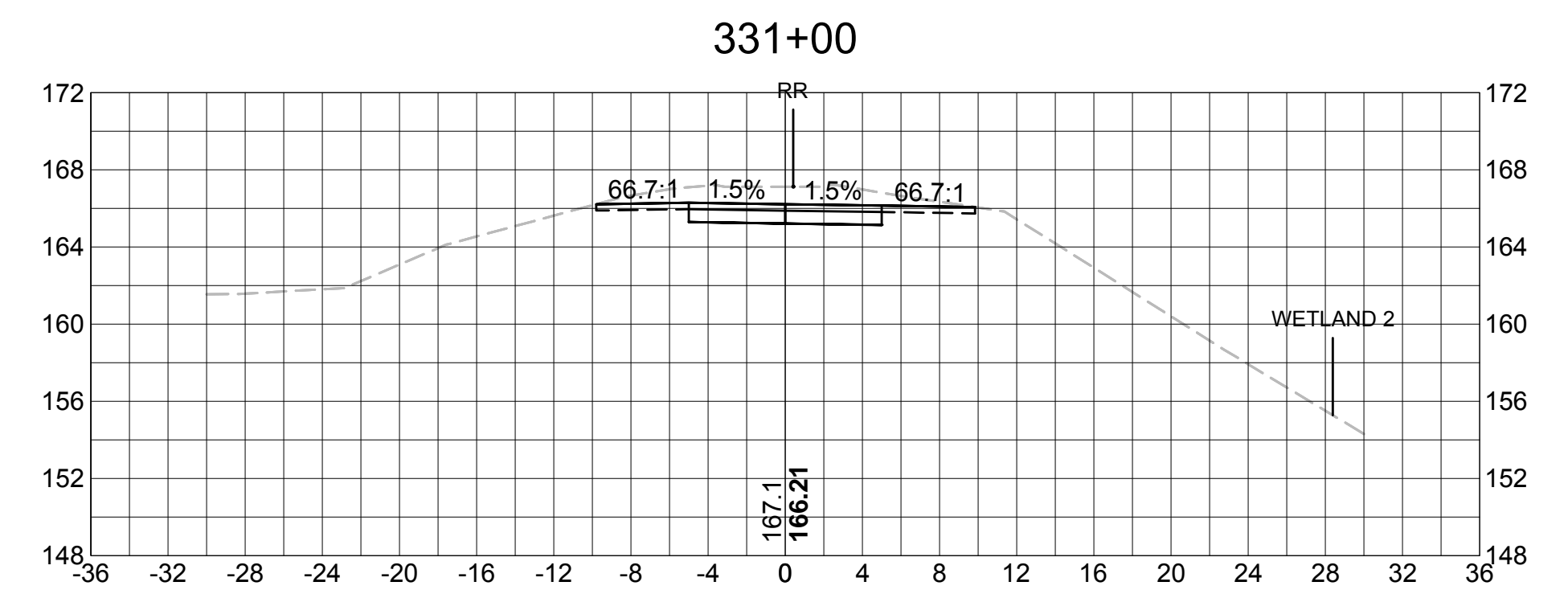
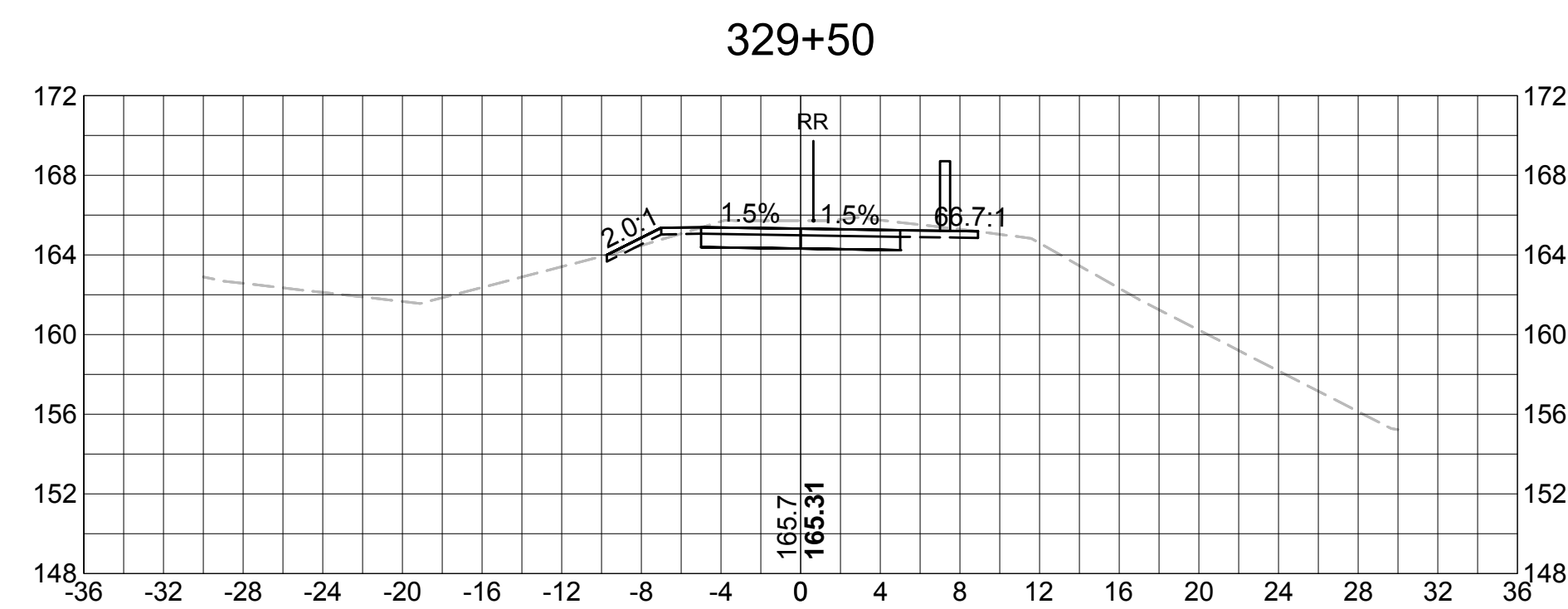
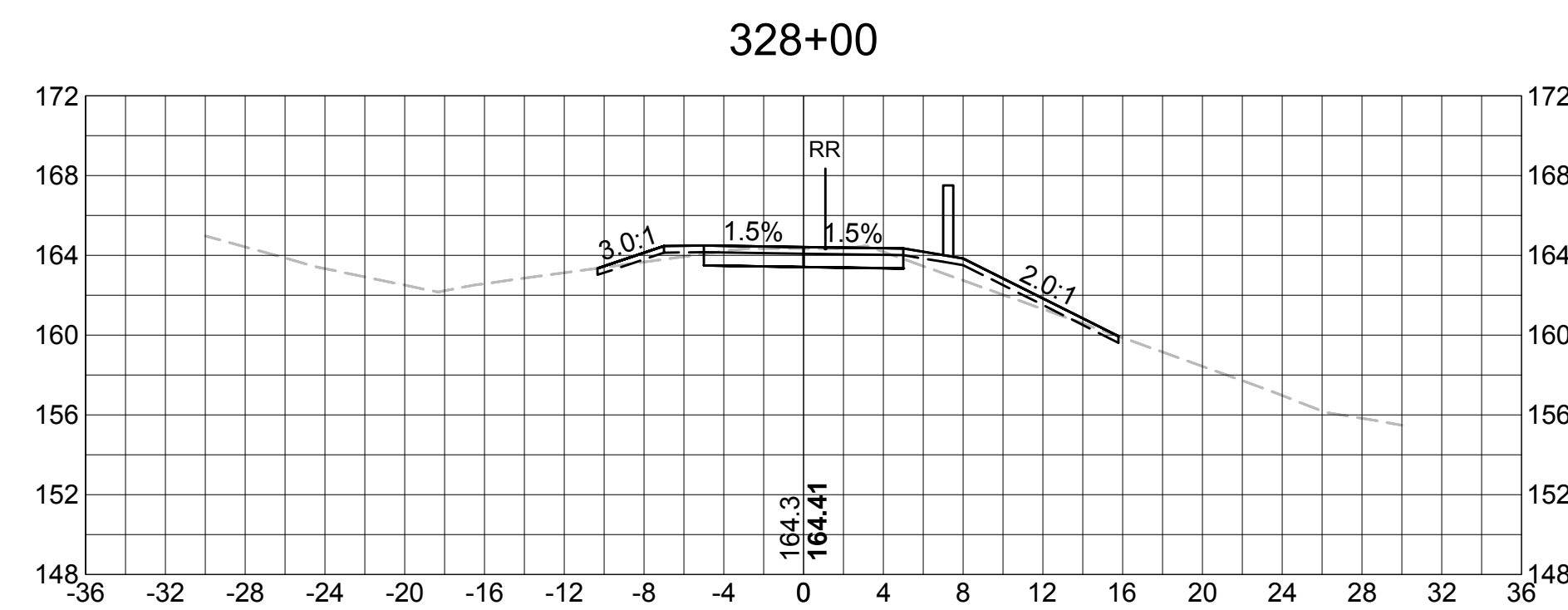
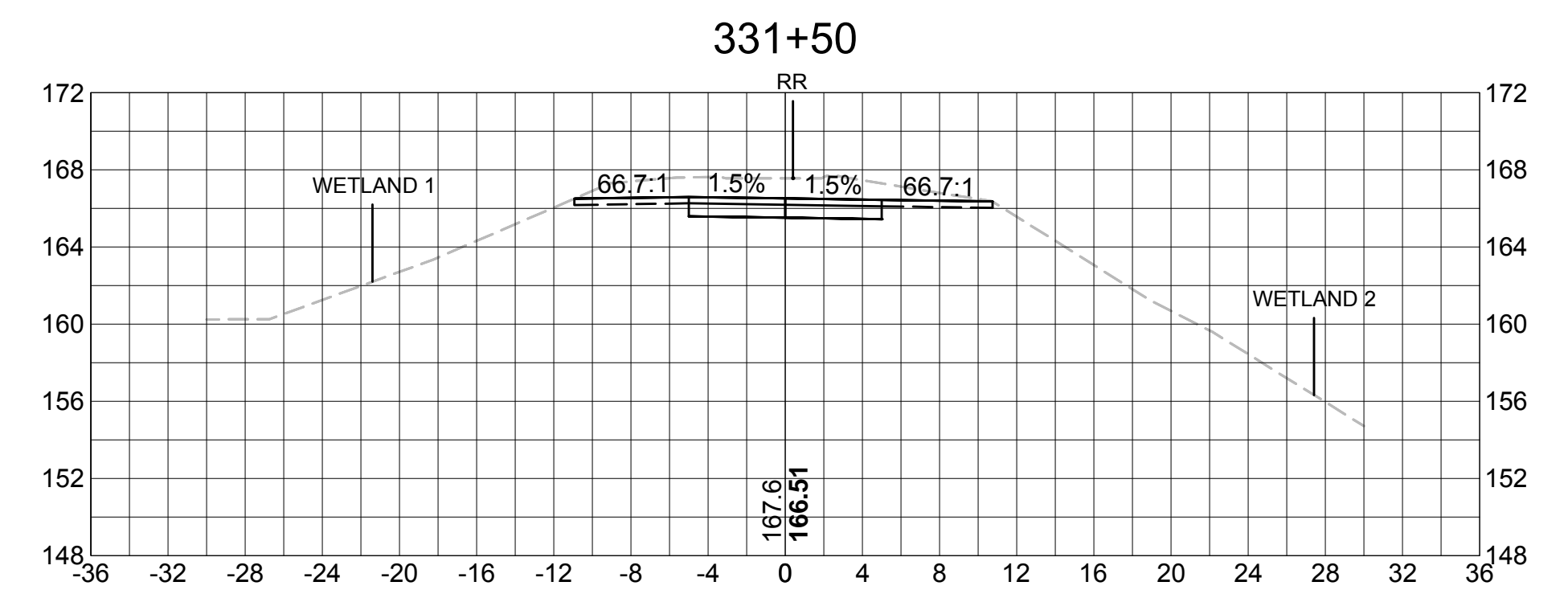
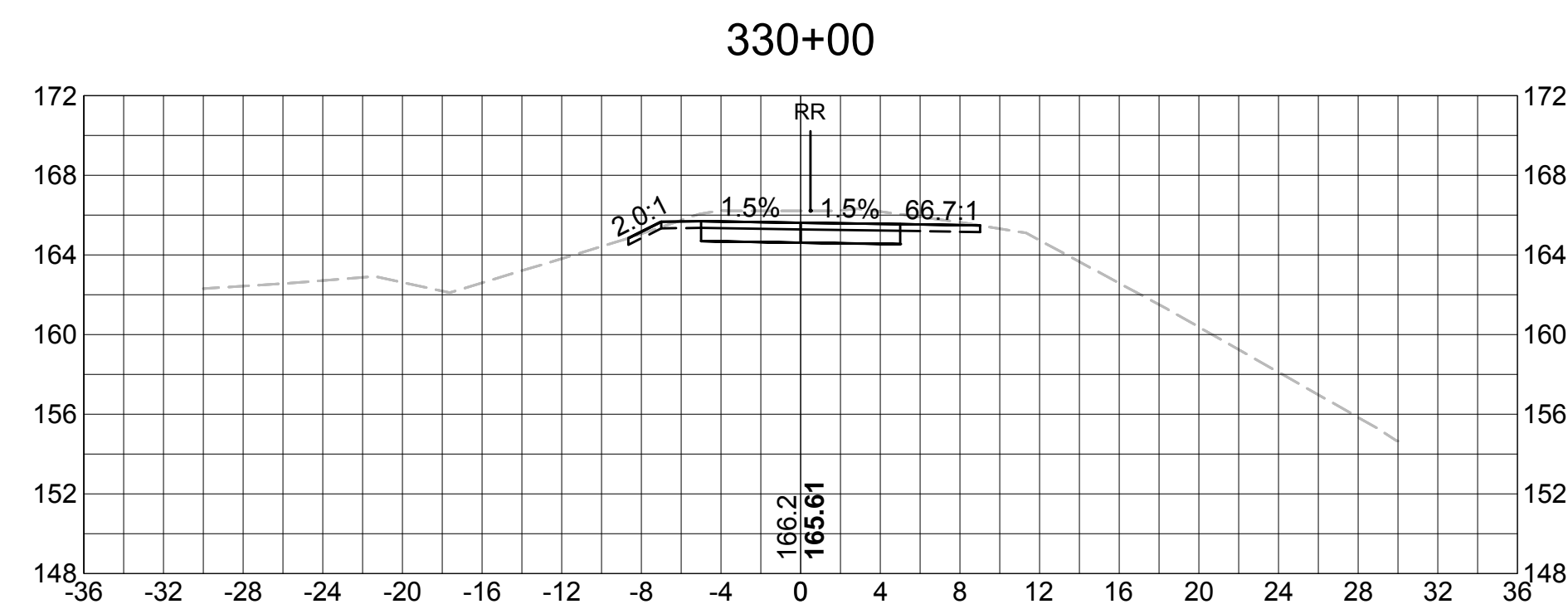
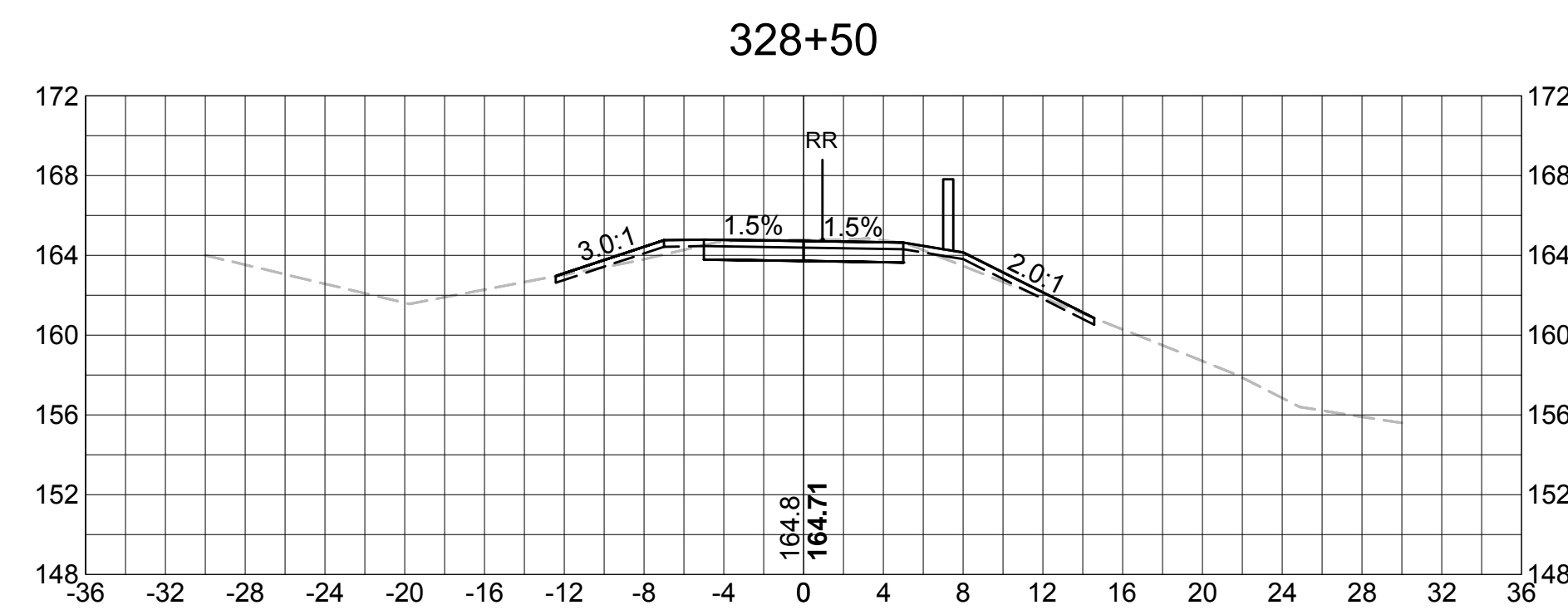
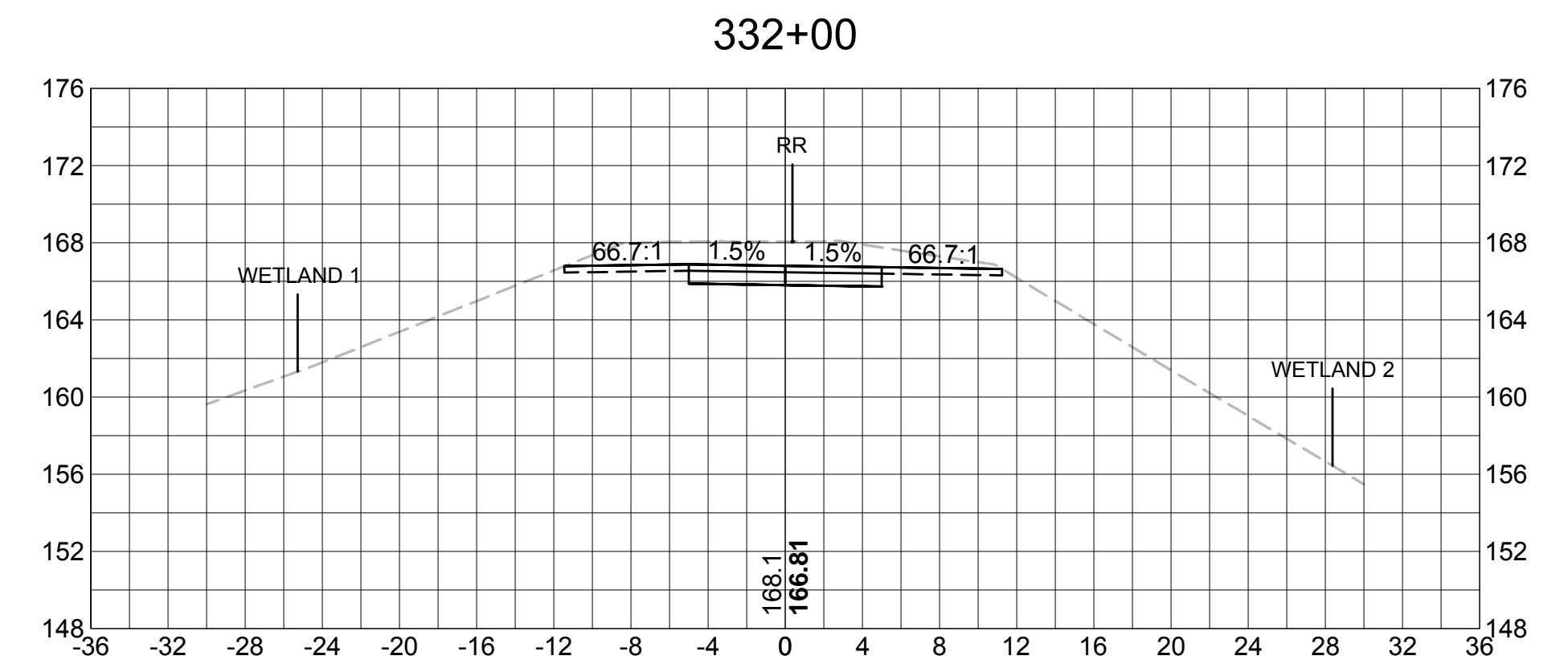
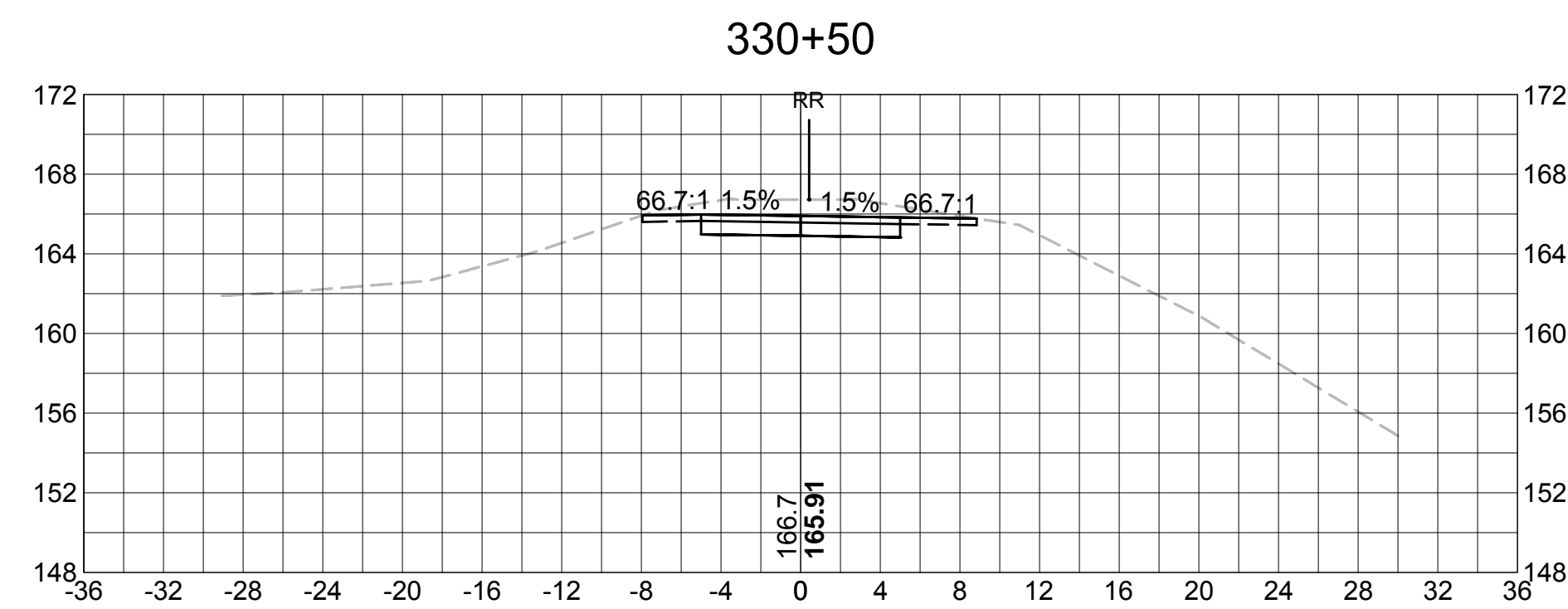
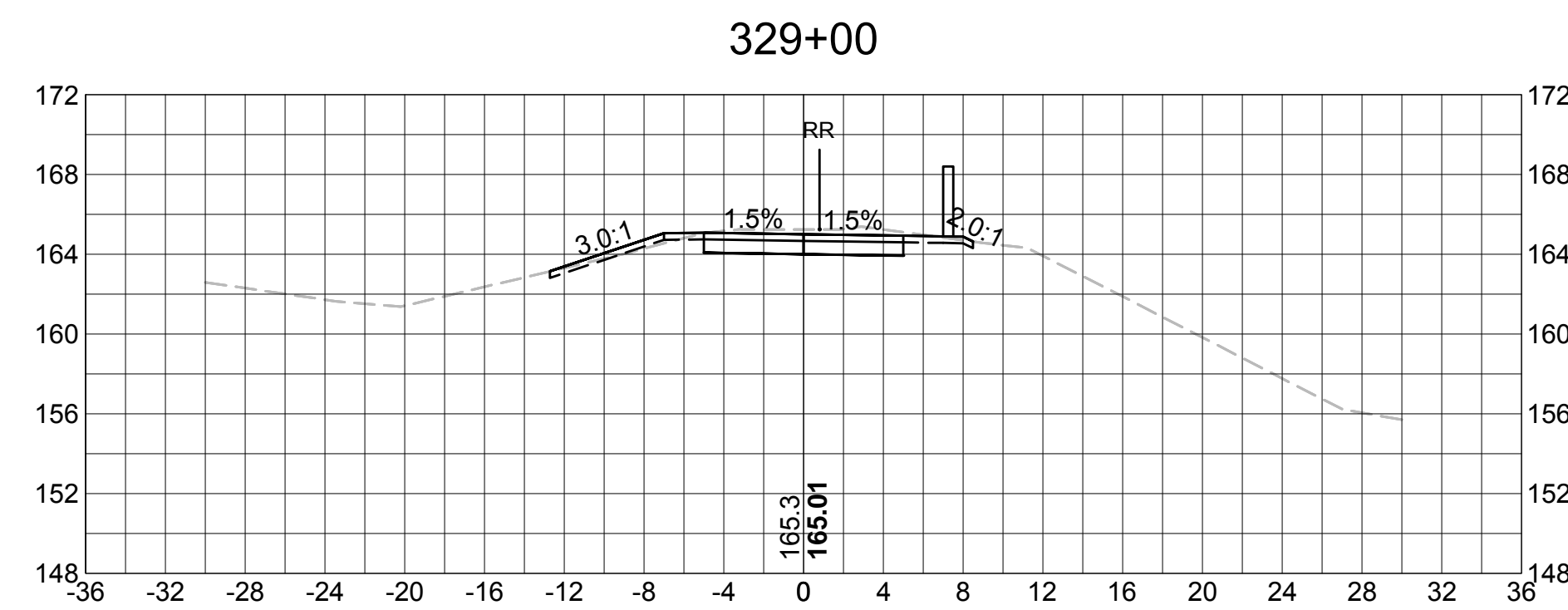


SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	122	123

PROJECT FILE NO. 608164

CROSS SECTIONS



SUDBURY
BRUCE FREEMAN RAIL TRAIL

STATE	FED. AID PROJ. NO.	SHEET NO.	TOTAL SHEETS
MASS.	TBD	123	123
PROJECT FILE NO. 608164			

CROSS SECTIONS

